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STATUS OF COMPETITION IN LONG DISTANCE AND LOCAL TELECOMMUNICATIONS MARKETS IN TEXAS

PUBLIC UTILITY COMMISSION OF TEXAS

January 15, 1989

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I. EXECUTIVE SUMMARY

The Seventieth Texas Legislature recognized the changing nature of the Texas telecommunications markets and amended the Public Utility Regulatory Act with SB 229 and SB 444. These bills mandated proceedings on cost allocation and market dominance in the long distance industry; provided the Commission with more flexibility for regulating certain aspects of local and long distance service; established a Tel-Assistance Program to reduce the cost of basic telephone service for the disadvantaged elderly; and required reports on the impact of competition in the long distance and local telecommunications industries.

The activities required of the Commission reflect the differing nature of competition in the long distance and the local exchange segments of the telecommunications industry. In long distance, where competition is more developed both in degree and extent, those activities included conducting proceedings to determine market dominance and to establish a cost allocation methodology to prevent regulated services from subsidizing non-regulated services. In local telecommunications, where current competition is limited to certain services, the Commission has implemented rules designed to permit the local telephone company to respond to the competitive pressures that do exist for those services. At the same time, programs such as Tel-Assistance and Link Up America have been put in place to assure that telephone service remains affordable for all Texans.

Overall, the Commission finds that the flexibility granted by the Seventieth Legislature is sufficient, given the existing levels of competition in the two segments of the telecommunications industry.

THE LONG DISTANCE INDUSTRY

In assessing the status of competition in the long distance industry in Texas, the Commission considered a number of factors, including market shares and the number, size, and financial viability of competitors. Much of this information was gathered during the market dominance proceeding. Highlights of the level of competition in four long distance service markets are as follows:

AT&T's share of revenues in the basic long distance market is approximately 65%, a figure which is rising slightly after a drop from about 74% at the beginning of 1986. There are **89** companies that provide this service in Texas.

AT&T's revenue share in the 800 service market has declined from approximately 100% to about 98%. Currently, **13** companies provide 800 service to their customers, although 10 of these companies simply resell the 800 service of the other 3.

AT&T's share of revenues in the operator services market slipped from about 90% to about 80%. There are **39** companies that provide these services, which include operator-assisted and credit card calling. Twelve of these companies provide long distance services to hotels, hospitals and other high volume users. Companies other than AT&T that provide this service are known as "alternative operator services" companies.

AT&T's revenue share for the fourth service market, consisting of WATS, WATS-like, private line, and virtual private line services, is steadily declining. Since the beginning of 1986, AT&T's share of WATS revenues has dropped from about 75% to 37%, and its share of private line revenues has declined from about 95% to approximately 76%. There are **20** companies that provide WATS and **13** companies that provide private line services. **Combined, AT&T's share of revenues for these services has decreased from about 82% in early 1986 to 52% in the third quarter of 1987.**

Overall, there are 107 interexchange carriers operating in Texas. Of these, 95 are resellers and 12 are facilities-based carriers.

As one would expect, there are more long distance companies operating in the large metropolitan areas of Texas than in rural areas, and consequently AT&T's market share is lower in the larger cities. Additionally, AT&T has more competitors in equal access areas than in non-equal access areas. **As of April, 1988, approximately 83% of the customer lines in Texas had been converted to equal access.** However, only 5 of the 66 local telephone companies in Texas offer equal access, and it is available in fewer than 50% of their end offices. Further, the actual geographic area served by equal access is limited to urban areas only.

The existence of competition appears to have had some effect on rates by providing both business and residential customers with some alternative carriers that generally position their rates at levels below those of AT&T. In recent years, the factor that has had the most significant effect on long distance rates is the mandate by the FCC in the interstate area and by the Commission in the intrastate jurisdiction that AT&T reduce long distance rates to pass along reductions in access charges. Other carriers followed suit at least to some degree. Reductions in intrastate long distance rates have not been as large as those for interstate calls because Texas has chosen instead to keep rates for local service as low as possible. Competition does seem to have enhanced the availability of telecommunications services, with both more types of services available, and with more companies making alternatives available.

The statistics cited above may lead the reader to conclude that there is extensive competition in the Texas long distance market. While it is true that competitors exist in each of the four service markets listed, those markets are not necessarily competitive in the true economic sense. To make that determination, the Commission found it necessary to consider other factors as well during the market dominance proceeding.

During the market dominance proceeding, the Commission concluded that AT&T remains dominant in all service markets, but that each market should be designated as "regulated competitive." Further, the Commission found that the higher degree of competition in the market for high volume services such as WATS and private lines warrants giving AT&T additional flexibility to set rates for those services. The Commission directed the staff to draft rules by mid-February to provide for this flexibility and to implement the consumer protection provisions authorized by SB 229.

THE LOCAL EXCHANGE INDUSTRY

In contrast to the long distance industry, local exchange carriers currently face little competition for the provision of basic local exchange services. There is some competition in selected other services, and there are areas that show the promise of competition to come. This report examines the

following five service categories of the local exchange telecommunications industry and describes the status of competition in each category. The information contained in this report was not gathered during an evidentiary hearing, as was the case for the statistics on competition in the long distance industry.

Non-Regulated Services

Services such as the provision of customer premises equipment and maintenance of inside wiring are subject to competition, but since these services are no longer regulated, they are not central to the issue of how competition may affect the operations of a regulated telephone company.

Basic Local Telephone Service

The local exchange carriers continue to be dominant providers of basic telephone service. However, advances in technology, improvements and expansion of cellular or mobile telephone services, and changes in the regulation of the cable television industry may increase competition in this market in the future. Also, a limited amount of direct competition exists in the form of shared tenant service providers.

Access Service

The major issue affecting certain local exchange carriers in the provision of access is not specifically competition, but the possibility of large users bypassing LEC facilities and thereby curtailing the revenues that the LEC might have generated.

IntraLATA Toll

Texas does not prohibit competition in the provision of intraLATA services. However, since divestiture, local exchange carriers have been serving as the principal providers of intraLATA toll service. The major source of competition in this market, to the extent described, is from interexchange carriers.

Non-Basic Telephone Services

Several services in this area are subject to competition, including central office-based PBX-type offerings, pay phones, and billing and collection.

II. COMPETITION IN LONG DISTANCE TELECOMMUNICATIONS

The history of the last two decades in the long distance industry has been the story of competition. From the time of one of the early victories for competition, when a Federal Communications Commission ("FCC") ruling permitted Microwave Communications, Inc. ("MCI") to provide private line service between Chicago and St. Louis, both technological advancements and regulatory policy have had the effect of promoting competition. Our task in this report is to assess the current status of competition in the long distance industry in Texas.

A. HISTORICAL BACKGROUND

1. Federal Regulatory Changes

Beginning in 1959, the FCC and the federal courts made a number of rulings that initiated competition as we know it today in the telecommunications industry. In that year, the FCC concluded in its "Above 890" decision that radio frequencies above 890 megacycles would not be reserved for common carriers alone, and that customers or private carriers could establish their own networks as long as they met the necessary technical criteria. This enabled customers of the telephone company to provide themselves with services formerly provided only by the American Telephone and Telegraph Company, abbreviated in this report as "AT&T" or "the Bell system." AT&T's current name in Texas is AT&T Communications of the Southwest, Inc.

In 1969, after six years of proceedings, the FCC granted MCI's request to be authorized to provide private line service between Chicago and St. Louis. Two years later, the FCC's Specialized Common Carrier decision opened the provision of such private line services to other carriers as well. (Note: In this report, the long distance carriers other than AT&T are often referred to as "Other Common Carriers," or "OCCs." The term "Interexchange Carriers," or "IXCs," refers to all the long distance providers, including AT&T.) During the 1970s, MCI expanded its offerings, and initiated a voice telecommunications service called Execunet, which used private branch exchanges ("PBXs") to gather traffic that was transmitted over its private lines. Although the FCC determined in 1976 that Execunet was a type of switched voice or message service that MCI was not authorized to provide, the U.S. Court of Appeals overturned that decision. After the court's decision, the long distance telecommunications market would no longer be served by a single provider.

The structure of the telecommunications industry was also changed by divestiture, which ended AT&T's common ownership of equipment manufacturing interests, local exchange companies, and long distance service. On January 1, 1984, pursuant to a federal consent decree known as the Modified Final Judgment ("MFJ") ordered by U.S. District Judge Harold Greene, AT&T divested itself of the local exchange companies, i.e., the Bell Operating Companies ("BOCs"). AT&T kept Bell Labs, the research entity; Western Electric, the equipment manufacturing arm; and AT&T Information Systems, the customer premises equipment provider. AT&T Information Systems eventually merged into AT&T Communications, the long distance company.

The BOCs were directed to convert their end offices to provide equal access, that is, access to their local networks equal to AT&T's access in type, quality and price for all IXCs. The consent decree established geographic areas called local access and transport areas (LATAs) that delineated the areas within which the BOCs could serve. AT&T and the BOCs entered into agreements regarding

the transfer of BOC facilities to AT&T for the provision of interLATA services. Subsidiaries of GTE Corporation ("GTE"), such as GTE Southwest ("GTESW"), which serves in Texas, are the next largest group of LECs after the BOCs. Under a separate consent decree, in connection with its 1983 acquisition of the predecessor company to Sprint, GTE was required to offer equal access in many of its end offices. The FCC also established guidelines for the provision of equal access by other independent local exchange carriers ("LECs"). (The "independents" consist of all LECs except the BOCs.)

2. Developments at the State Level

Prior to 1984, Southwestern Bell ("SWB"), then a subsidiary of AT&T, provided intrastate local exchange and interexchange service within Texas. After the Commission was created in 1975, it regulated both types of service through its regulation of SWB. The Commission did not regulate the OCCs.

MCI began offering private line service in Texas in 1975 and basic long distance service ("message telecommunications service", or "MTS") in 1976. Soon afterward, a predecessor of Sprint began providing interexchange service in Texas. However, many OCCs serving in Texas have been in business for only one to three years.

B. OVERVIEW — FEDERAL VS. STATE JURISDICTION

As a result of divestiture, Texas is divided into eighteen LATAs. (See Exhibit II-A.) These LATAs are generally centered around large metropolitan areas.

Under the consent decrees, in this state SWB and GTESW were to continue to provide local exchange service and intraLATA interexchange service, while AT&T and the OCCs were allowed to provide intraLATA and interLATA interexchange service (that is, toll calling service but no local service). Interexchange telecommunications are those telephone calls which originate in one local exchange and terminate in another local exchange. Interexchange telecommunications may be either intraLATA or interLATA. In order to provide long distance services, IXCs generally own or lease facilities connecting their switches located in different LATAs and buy access services from the LECs in order to originate and terminate calls.

AT&T's interstate long distance rates are regulated by the FCC; however, the FCC has chosen not to regulate the OCCs' interstate rates. The setting of rates for intrastate long distance and access to the local network falls under the jurisdiction of each state. In Texas, the Public Utility Commission is vested with the authority to regulate telecommunications utilities according to the Public Utility Regulatory Act ("PURA").

In 1983 amendments to the PURA, the Texas Legislature addressed Commission regulation of telecommunications in the post-divestiture era. The following language was added to Section 18(a):

> The legislature finds that the telecommunications industry through technical advancements, federal judicial and administrative actions, and the formulation of new telecommunications enterprises has become and will continue to be in many and growing areas a competitive industry which does not lend itself to traditional public utility regulatory rules, policies, and principles; and that therefore, the public interest requires that new rules, policies and principles be formulated and applied to protect the public interest and to provide equal opportunity to all telecommunications

utilities in a competitive marketplace. It is the purpose of this section to grant to the commission the authority and the power under this Act to carry out the public policy herein stated.

These amendments also gave the Commission full jurisdiction, including authority to set rates, over any "dominant carrier" of communications services. The Commission later determined that this term included AT&T.

C. CHANGES MADE BY THE SEVENTIETH TEXAS LEGISLATURE (SB 229)

De-regulation of AT&T was a major issue during the 1987 legislative session. Efforts to resolve that issue resulted in Senate Bill (SB) 229, which is codified as PURA Sections 18(c), (d), and (l) through (q); 100; and 101.

Section 100 sets three tasks for the Commission in connection with competition in long distance telecommunications:

1. to decide if any IXC is dominant as to any service market determined by the Commission (Section 100(b));

2. to determine the status of interLATA interexchange competition and report to the Legislature (Section 100(c)); and

3. to establish a cost allocation methodology that prevents fully regulated services from subsidizing competitive services (Section 100(e)).

This report on the status of competition includes discussions of the Commission's actions in the cost allocation proceeding (Project No. 7789) and in the market dominance proceeding (Docket No. 7790). The examiner in the market dominance docket found that it is not possible to separate intraLATA and interLATA data for the IXCs; therefore both the Examiner's Report and this report provide information on intrastate long distance competition, as opposed to interLATA interexchange competition.

SB 229 authorizes the Commission to classify services as "fully regulated," "regulated competitive," or "competitive." The Commission's regulation of fully regulated services is less flexible than its regulation of regulated competitive services. The bill also provided for the implementation of certain consumer protections that apply to both dominant and non-dominant companies.

D. COMMISSION ACTIONS

1. Rule 23.25 — Flexible Regulation of Certain AT&T Services

In the spring of 1987 the Public Utility Commission of Texas adopted Substantive Rule 23.25, which provides flexible regulation for certain AT&T services. This rule was expressly validated by SB 229 and became effective July 1, 1987. It was formulated to allow AT&T to address competition in the long distance market while continuing to be regulated as the dominant interexchange carrier in the State of Texas.

The two primary forms of relief adopted under this rule involved rate banding (Section 23.25(c)) for new and existing services and streamlined procedures for both changes in rates and the introduction of new services (Section 23.25(b)).

a. Rate Banding

Effective July 1, 1987 (the first year of the rule), AT&T was granted the flexibility to incorporate a "range of rates" into the price structure for most of its products and services. This flexibility allows AT&T to change some rates within a band, rather than having to charge the exact rates set by the Commission in a full rate proceeding. The rule establishes both a "bench-mark price" (that is, those prices that were based on rates set during AT&T's last full rate proceeding and were in effect when the rule was approved) and a maximum and minimum rate around this mid-range bench-mark. Effective July 1, 1988 (the second year of the rule), the range of rates became broader, allowing for even more flexibility than in the previous year.

Under Rule 23.25(c), rate bands are permitted for four services: basic long distance ("MTS"), Wide Area Telecommunications Services ("WATS"), analog private line service ("PLS"), and digital PLS. There is no rate band for AT&T's 800 service or operator services.

	Maximum Rate		**Minimum Rate**	
MTS	Year 1:	$.01 above bench-mark price	Year 1:	$.01 below bench-mark price
	Afterward:	$.02 above bench-mark price	Afterward:	$.02 below bench-mark price
WATS	Year 1:	5% above bench-mark price	Year 1:	5% below bench-mark price
	Afterward:	10% above bench-mark price	Afterward:	10% below bench-mark price
Analog PLS	Year 1:	$25 above bench-mark price per local channel rate element, not to exceed cost of access	Year 1:	bench-mark price
	Afterward:	$50 above bench-mark price per local channel rate element, not to exceed cost of access	Afterward:	bench-mark price
Digital PLS	Year 1:	10% above bench-mark price	Year 1:	10% below bench-mark price
	Afterward:	20% above bench-mark price	Afterward:	20% below bench-mark price

b. Basic Long Distance Service (MTS)

For basic long distance service, AT&T was granted the authority to vary its rates by $.01 per minute lower or higher than the bench-mark in the first year and $.02 per minute lower or higher in the second year. Although one or two cents may not appear to be significant, for a directly dialed call of three minutes in length, AT&T could charge a minimum rate of $.11 or a maximum rate of $.23 for its lowest mileage band, or a minimum rate of $1.06 or a maximum rate of $1.18 for its highest mileage band. This results in a $.12 variance in the rates that can be charged for a standard three minute long distance call. To put this penny into perspective, an across the board change of plus or minus $.01 per minute for all mileage bands would result in an annual revenue increase or decrease of approximately $17 million dollars for AT&T.

AT&T has not changed any MTS rates in response to this rule.

c. Wide Area Telecommunications Service (WATS)

AT&T was granted the authority to charge maximum and minimum rates 5% above or below its bench-mark prices in the first year of the rule and maximum and minimum rates of 10% above or below its bench-mark prices in the second year for WATS.

AT&T responded to this flexibility on October 1, 1987, by increasing the rates for its initial and additional period WATS 80 usage prices by the maximum 5%. AT&T also raised its Local Area WATS monthly usage prices by 5%. In the second year of the rule, AT&T again increased its WATS 80 rates by 5% effective August 1, 1988. During the term of this rule, AT&T has not altered the rates for its two lower volume WATS.

d. Analog Private Line Service (PLS)

AT&T was granted the flexibility to charge a maximum rate of $25.00 above the monthly bench-mark price per local channel rate element in the first year of the rule, and $50.00 above the bench-mark in the second year. In both instances the monthly rate could not exceed the cost of access and the minimum rate was to be the bench-mark price.

In the first year of the rule, AT&T increased all of its analog private line channel termination prices by the maximum $25.00. In the second year AT&T increased analog private line charges between $7.05 and $25.00 per channel termination.

e. Digital Private Line Service (PLS)

AT&T was authorized to charge maximum and minimum rates 10% above or below its bench-mark prices in the first year of the rule and maximum and minimum rates 20% above or below its bench-mark prices in the second year for digital private line services.

In the first year AT&T responded to this flexibility by increasing its access-related prices for digital private line service by 10%, while in the second year it increased some access related prices by an additional 10% and generally reduced transport related digital rates.

AT&T decreased its usage sensitive rates for Software Defined Network Service (SDNS) in both the first and second year of the rule. Although SDNS is technically a virtual private line offering, it was treated as a private line service under the rule.

f. New Services

Rule 23.25(b) defines "new service" to include repricing or repackaging of any tariffed service offering, so long as the service incorporates some new feature and is not merely a change in name or rates for an existing service. If the Commission does not rule on a proposed new service within 30 days after the application is filed, AT&T may begin providing the service as proposed pending final Commission action.

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In 1987 AT&T introduced three new services under the streamlined procedures for the introduction of new services: AT&T MEGACOM Service, AT&T 800 Readyline Service, and AT&T MEGACOM 800 Service. In 1988 AT&T introduced ALLIANCE Meet-Me Conference Service and the AT&T Texas Business Plan under the new procedures. One additional service was submitted for approval in 1988; however, AT&T elected to withdraw its application for the service after Commission staff recommended that the service be docketed for a hearing on the merits.

g. Impact

The overall effect of AT&T's price changes made in the first two years of this rule resulted in projected revenue increases of approximately $4.65 million for 1987 and $3.43 million for 1988. These increases are small, however, compared to total annual Texas revenues of approximately $1 billion.

New products and services generated significant revenues for AT&T during the term of this rule. However, because of the proprietary nature of AT&T's new services quarterly reports to the Commission, specific information is unavailable.

AT&T argues that Rule 23.25 has not solved its regulatory problems. AT&T reasons that: it must still announce its plans to introduce a service or change rates thirty days in advance; the rate bands are too narrow; the rule does not allow AT&T to restructure its rates; and the rule does not cover 800 service and operator services.

For private line service, the band is too narrow, because AT&T's PLS is priced below its access costs, as demonstrated by the following chart. The differential has been reduced by recent increases in AT&T's analog PLS rates.

Analog Private Line	Two-Wire Voice	Four-Wire Data
Access Cost	$127.76	$134.94
Pre-Docket No. 6095 Price	19.95	33.45
Docket No. 6095 Price After 4/1/86	49.25	82.60
Rule 23.25 Price After 8/1/87	74.25	107.60
Rule 23.25 Price Allowed After 7/1/88	99.25	132.60

2. Project No. 7789 — Cost Allocation

SB 229 directed the Commission to conduct a rulemaking proceeding to determine a method for separating costs among telecommunications services of interexchange carriers. In Project No. 7789, the Commission established a method to determine the cost of producing the telecommunications services in each of three service market groupings: fully regulated services, regulated-competitive services, and unregulated services. The objective of the cost allocation methodology is to prevent fully regulated services from recovering any cost not associated with these services. Project No. 7789 was concluded by Commission action, which adopted the proposed Substantive Rule 23.29 on October 27, 1988. Substantive Rule 23.29 became effective on January 1, 1989.

Two rules were proposed by parties to Project No. 7789: one by AT&T, and one by staff. Both proposed versions were published in the Texas Register to elicit public comment. Additionally, the Commission conducted formal hearings on the project. Subsequent to the close of hearings, the parties negotiated a resolution of the differences between the two proposed rules. Substantive Rule 23.29 is the product of these negotiations and, in effect, combines major features of both the proposed rules.

The essence of the distinction between the two proposed rules was that AT&T's rule called for a traditional fully distributed cost technique based upon conventional accounting data to allocate a revenue requirement to the telecommunications services within the three market groupings. The staff rule proposed to determine the cost of producing the fully regulated services by examining the physical facilities of a telecommunications network within which these services are produced in the form of telecommunications channels and associated services, such as operator assistance. The staff procedure relies upon detailed network and traffic data to determine the particular aspects of the network actually used in providing the regulated services. These network and traffic data serve as the analytical bases used to develop a set of allocators that apportion conventional but detailed accounting data to the regulated service category and to the other two market groupings, if needed. Once these allocators have been developed from the traffic data, the staff rule has the same structure and the same operational characteristics as the version of the rule proposed by AT&T. Consequently, the cost allocation rule promulgated by the Commission combines the detailed traffic data with an apportionment mechanism that fully allocates booked costs to the three market groupings.

Substantive Rule 23.29 may be initiated by either a PURA Section 42 or Section 43 action. However, because its basic function is to prevent cross-subsidization of unregulated or competitive services by fully regulated services, the Commission's action in Docket No. 7790 effectively precludes it from ever being utilized. In Docket No. 7790, the Commission accepted the categorization of long distance services into four markets, and designated all four markets as regulated competitive. The Commission did indicate concern that the most competitive market, consisting of WATS and private lines, not be subsidized by the other less competitive markets, and directed staff to develop rules to that effect.

3. Docket No. 7790 — Market Dominance

On November 2, 1987, the Commission's general counsel, representing the public interest, filed a petition to initiate the market dominance proceeding mandated by SB 229. In the petition, general counsel asked that all IXCs offering service in Texas be joined as necessary parties to this case,designated as Docket No. 7790.

Actual notice of this docket was sent to all IXCs registered with the Commission and all parties to relevant Commission dockets. In addition, AT&T provided notice of this docket by one week's publication, in newspapers of general circulation, in each Texas county.

Prehearing conferences in this case were held throughout the winter and spring preceding the formal hearing, which began in June and lasted over five weeks.

The Administrative Law Judge (ALJ or "examiner"), Elizabeth Drews, found the case unusual in that there were so many parties, many of whom had no interest in participating in the case. A number of IXCs expressed disbelief that the Commission had any authority over them, including the power to require them to furnish information in connection with this docket.

The case also presented the examiner with unique problems in maintaining a complete and current service list. Although under PURA Section 18(d) and P.U.C. Substantive Rule 23.61(i) and (j), all IXCs, including specialized common carriers and resellers of interexchange services, are required to register with the Commission, early in the case it became apparent that many IXCs had not registered and many others had not kept their registration information current. Locating "missing" IXCs and determining their status presented a continuing challenge. In addition, a number of IXCs merged or went out of business during the case. Exhibit II-B lists the entities joined as necessary parties and indicates which of them were later dismissed as parties or dropped from the service list, and why.

Discovery was difficult because many IXCs claimed that information sought constituted a trade secret. It is not surprising that this occurred, because most of the parties are competitors and the main issue in the case is their ability to compete. A protective order signed December 18, 1987, permitted considerable discovery to take place. In addition, the Commission staff compiled in aggregated form significant amounts of data considered too sensitive to be provided to a competitor on a company-specific basis.

Because of difficulties related to the identification of IXCs, confidentiality concerns, limited party resources and the statutory deadline for completing the case, it is likely that no one is completely satisfied with the evidence developed in this case. Nevertheless, the docket did yield a great deal of previously unavailable information about the competitiveness of interexchange telecommunication service in Texas. SB 229 (PURA Section 100(h)) required that the Commission consider a number of factors in determining market dominance, and the major factors are discussed in subsequent sections of this report.

In this case, AT&T was the only IXC affirmatively alleged to be dominant as to any service. AT&T's dominance was in dispute regarding every interexchange service AT&T offers in Texas. Parties proposed various market configurations, ranging from a single market for all interexchange telecommunications services to the four markets recommended by the examiner: basic long distance service (MTS); 800 service; operator services; and "all other services," consisting primarily of WATS, WATS-like, virtual private line service, and PLS. The findings related to these markets are discussed in Section E(2).

The Commission determined that AT&T is dominant in all four service markets, but that the level of competition in all four markets warrants the Commission designating all services as "regulated competitive." The Commission has directed staff to draft rules within sixty days of the issuance of its final order in Docket No. 7790 concerning methods of allocating costs of AT&T's services now that the Commission has designated all its services as regulated competitive. This rule is necessary because Rule 23.29 provides only for such an allocation methodology between fully regulated services and the other categories of services. The draft rules must also design an appropriate regulatory treatment for the service market consisting of WATS, WATS-like, private line and virtual private line services.

E. STATUS OF COMPETITION—STATISTICS

1. Number of Competitors

Statistics regarding the number of interexchange carriers operating in Texas have generated a great deal of confusion because the numbers cited have ranged from 50 to 175 or more. In general,

it is safe to say that while all of the various numbers may have a certain validity, they are derived from different sources and descibe different aspects of the industry. The examiner in Docket No. 7790 found that there are 107 IXCs operating in Texas. Of these, 12 are facilities-based IXCs and 95 are resellers. The facilities-based IXCs are: AT&T, MCI, Sprint, ClayDesta, United States Transmission Systems (ITT), Contel ASC, Western Union, Cable & Wireless, LDX Net, Inc. (LDX), Communications Transmission, Inc. (CTI), Electra, and Qwest. Of these, the last three are pure carriers' carriers, not affiliated with any other IXC. Western Union is planning to stop offering interexchange service. Evidence gathered during the hearing indicated that there were seven facilities-based IXCs in 1984.

a. Number of IXCs by Market

For purposes of analyzing the number of companies that compete with AT&T in Texas, the most useful method is to look at the different markets in which the competition is occurring. This was done during the market dominance docket, and the examiner found that of the 107 IXCs in Texas:

89 offer MTS. Only 60 of these offer 1+ service.

39 offer operator services.

> The term "operator services" includes credit-card and operator-assisted services. Of these 39, approximately 38 IXCs allow customers to charge long distance calls to one or more commercial credit cards (Mastercard or Visa) or IXC credit cards. About 12 IXCs, including AT&T, offer operator-assisted services in Texas to high-volume customers such as hotels, motels, hospitals, universities and pay telephones, and to residential and other business users. Companies other than AT&T that provide this service are referred to as "alternative operator service" ("AOS") providers.
>
> AT&T and Sprint provide interLATA operator-assisted and credit card services directly to MTS customers. In January 1988, MCI began providing an operator-assisted service. That service merely permits customers to place credit card calls from rotary telephones by telling an operator certain billing information from the customer's credit card. However, MCI announced plans to provide a full range of operator services by the end of 1988.

13 offer 800 service.

> Of these, only AT&T, MCI and Sprint provide their own 800 service. The others resell such service.

33 offer WATS; and

14 offer private line service.

However, these figures include many IXCs that do not offer a full range of the services included in each such service market. Also, nearly all IXCs serve only in limited geographic areas of the state. It thus would be far from accurate to conclude that AT&T faces such a large number of competitors with respect to any particular customer or service.

b. Number of IXCs Registered with the Commission

An AT&T analysis of the Commission's IXC registration list showed that at year-end 1984, 37 resellers had registered with the Commission. As of spring 1988, 19 of these resellers were still doing business under the same name, 4 had merged with other resellers, 5 were still in business under a different name, and 9 were no longer in business. At least 11 new resellers registered with the Commission in 1986, 15 in 1987, and 17 in the first three months of 1988. As discussed previously, however, some IXCs have not bothered to register with the Commission or to keep their registration information current. Moreover, the unusually high figure for the first quarter of 1988 might result from successful efforts in connection with this docket to locate "missing" IXCs. However, the AT&T figures provide some evidence of broad trends regarding the number and survival rate of resellers in Texas.

2. Market Shares

Several different methods of measuring IXCs' shares of the Texas intrastate interexchange market were used during Docket No. 7790 and are presented in this report.

a. Market Share Data Gathered by Commission Staff

To gather information on market shares, the Commission's Telephone Division staff developed a questionnaire entitled the Interexchange Carrier Data Report ("ICDR") and distributed it to all interexchange carriers operating in Texas.

The ICDR gathered information from IXCs about revenues, number of customers, and minutes of use ("MOUs") relating to Texas operations. Carriers were initially asked for data pertaining to 1986 and 1987; a later ICDR asked for 1988 data to the extent it is available.

A questionnaire entitled the Local Exchange Carrier Data Report ("LECDR") was also developed and distributed to the ten largest investor-owned LECs in Texas. This report gathered information about the interexchange carriers' minutes of use in those companies' serving areas. Because these companies account for 97.6% of the access lines in the state, and because the LECs could be expected to have complete and consistent records for all IXCs in their areas, the results could be used to analyze statewide market shares based on minutes of use.

Prior to distribution of the ICDRs, Commission staff met with IXC representatives to test whether the wording of questions adequately conveyed intended meanings and whether carriers kept records in a manner that would allow them to answer the questions without overly burdensome efforts. Staff also met with representatives of the ten largest investor-owned local exchange companies to review the draft LECDR for technical accuracy and availability of the requested information.

As a result of these meetings, a confidentiality procedure was developed to address the non-regulated IXCs' concern that much of the information was extremely sensitive business information, which if made public, could adversely affect their operations.

The ICDRs and LECDRs (also referred to as data reports) have some advantages and some disadvantages, but overall, the examiner in Docket No. 7790 found the data to be reasonable. However, some parties continue to contest certain aspects of the data. The aggregated results of the ICDRs and LECDRs are shown in Exhibits II-C through II-F. When market shares of revenues are calculated,

the most recent information cited is the third quarter of 1987 because the largest number of IXCs responded for that time period. Highlights of the information include the following:

* AT&T's share of revenues in the basic long distance market (MTS) is approximately 65%, a figure which is rising slightly after a drop from about 74% at the beginning of 1986. There are 89 companies that provide this service in Texas. At year end 1987, AT&T served 83% of the residential MTS customers, and 45% of business MTS customers.

* AT&T's revenue share in the 800 service market has declined from approximately 100% to about 98%. As of year end 1987, AT&T had 87% of the 800 customers. Currently, 13 companies provide 800 service to their customers, although 10 of these companies simply resell the 800 service of the other 3.

* AT&T's revenue share for all other services (basically the high volume services such as WATS and private lines) is steadily declining. Since the beginning of 1986, AT&T's share of WATS and WATS-like revenues has dropped from about 75% to 37%, and its share of private line and virtual private line revenues has declined from about 95% to approximately 76%. Combined, AT&T's share of revenues for these services has decreased from 82% in early 1986 to about 52% in the third quarter of 1987. There are 20 companies that provide WATS and 13 companies that provide private line services. As of year end 1987, AT&T served fewer than 20% of Texas WATS customers and 46% of PLS business customers.

Staff has since updated the aggregated ICDR reports on revenues, minutes of use, and customers for the fourth quarter of 1987 and for as much of 1988 as possible. (See Exhibit II-G). Because this information was available only after the conclusion of the hearing in Docket No. 7790, it was not submitted into evidence. Therefore, it is not being considered by the Commissioners in their rulings on Docket No. 7790.

The LECDRs and ICDRs do not provide usable market share data regarding the operator services market, because those questionnaires were developed prior to the establishment of the various markets, and they called for operator services data to be combined with data for other services. The examiner instead accepted market share figures for the operator services market discovered by AT&T through Requests for Information to OCCs. Because of the confidential nature of the data, the Commission staff assisted in compiling the data.

Market share figures for the interLATA portion of the Texas operator services market for the fourth quarter of 1987 indicate that AT&T had an 85.5% share of operator-assisted and credit card messages, a 76.2% share of credit card messages and an 81.8% share of operator service revenues. AT&T's market share in the operator services market over time is as follows:

	1Q 87	2Q 87	3Q 87	4Q 87
Total Operator Service Messages	91.8%	89.9%	89.2%	85.5%
Credit Card Only Messages	86.4%	82.9%	81.8%	76.2%
Revenues	91. %	88.1%	86.7%	81.8%

Commission staff recently gathered additional information from the 66 LECs pertaining to IXC operations in their service areas. Statewide originating access minutes of use purchased by the IXCs is shown in Exhibit II-H. As with the updated ICDR data, this information was not included as evidence

in Docket No. 7790. The number of OCCs in each LEC and the extent of those OCCs' presence is provided in Exhibit II-I. It is important to note that of the 82 OCCs in SWB's service area, only 4 serve in a majority (i.e., 50% or more) of SWB end offices.

b. AT&T Market Share Based on a Study Performed by Texas A&M

A study performed for AT&T by Texas A&M University (the A&M study) during November 1987 and February 1988 presented additional MTS revenue share data. The A&M study was based on telephone surveys of 4,800 Texas residential and 2,400 business customers. The actual calling was performed by Telesurveys of Texas. The customers were randomly selected. The interviewers were provided maps and information classifying exchanges by LATA to enable the interviewers to explain to respondents the difference between intraLATA and interLATA calls. Neither the interviewers nor the respondents were told that AT&T was sponsoring the survey.

The examiner was willing to accept the A&M study information to the extent that it did not significantly conflict with the MTS revenue share figures derived from the staff's ICDR and LECDR reports. However, she found it disconcerting that the earlier version of the A&M study that was presented to the 1987 Texas Legislature showed AT&T's share of Texas intrastate interLATA MTS revenues to be 43.7%, compared to the 61.9% figure shown by the later study.

The MTS revenue share figures resulting from the A&M study are summarized below:

	% AT&T	% OCCs
Residential	75.6	24.4
Rural	88.1	11.9
Equal Access Before 5/86	62.2	37.8
Equal Access After 5/86	75.2	24.8
Non-Equal Access	91.0	9.0
Urban	73.1	26.9
Equal Access Before 5/86	65.2	34.8
Equal Access After 5/86	77.3	22.7
Non-Equal Access	89.5	10.5
Equal Access	69.1	30.9
Non-Equal Access	90.5	9.5
Commercial	47.5	52.5
Rural	86.0	14.0
Equal Access Before 5/86	86.6	13.4
Equal Access After 5/86	71.5	28.5
Non-Equal Access	87.6	12.4
Urban	44.4	55.6
Equal Access Before 5/86	39.0	61.0
Equal Access After 5/86	54.3	45.7
Non-Equal Access	70.0	30.0
Equal Access Before 5/86	39.1	60.9
Equal Access After 5/86	55.0	45.0
Non-Equal Access	77.6	22.4
Total	61.9	38.1

The study also indicates the following:

* AT&T's revenue share is lower in metropolitan areas. AT&T's share of commercial MTS revenues varies from less than 22% in the Austin and San Antonio standard metropolitan statistical areas (SMSAs) to 55.2% in the Houston SMSA. Its share of residential MTS revenues varies from 54.4% in the Austin SMSA to 78.7% in the Fort Worth SMSA.

* The percentages of OCC residential customers served by an OCC for a given length of time were: more than two years, 36.1; one to two years, 42.0; four to eleven months, 15.2; and up to three months, 6.7.

* AT&T's residential MTS revenue share is 87% among respondents with less than a high school education but less than 65% among college graduates.

* 36% of the OCCs' commercial customers spend more than $100 per month on IXC-provided long distance, compared to 20% for AT&T. 41% of the OCCs' residential customers spend more than $20 per month for intrastate calls, compared to 29% for AT&T. The monthly telephone bill of residential customers who use an OCC is higher in non-equal access areas than in equal access areas.

* AT&T's revenue share is 71.5% of commercial customers with one employee, dropping steadily to 20.2% of commercial customers with 101-500 employees.

* Commercial and residential customers served by both AT&T and another IXC have higher monthly intrastate telephone bills than do customers who use AT&T's service exclusively. Among commercial customers served by AT&T and another IXC, AT&T's revenue share was 15.9%.

In summary, the A&M study shows that AT&T has a high share of residential MTS revenues, particularly in rural and in non-equal access urban areas. It has a high share of commercial MTS revenues in rural and in non-equal access urban areas. However, AT&T's share of commercial MTS revenues in urban equal access areas is much closer to that of the OCCs. AT&T's residential customers tend to be less well-educated than are such customers served by OCCs. AT&T's customers have lower average long-distance bills than do the OCCs' customers. Finally, AT&T has a much higher revenue share among commercial businesses with few employees than among those with numerous employees.

c. Market Share Data Concerning Specific OCCs

Although in general, company-specific market share data for the OCCs was kept confidential during Docket No. 7790, there are two exceptions. First, to support a proposed stipulation that most Texas IXCs are not dominant, based on the data reports, the staff stated that each such IXC except AT&T, MCI, Sprint, and Metromedia has less than three percent of the overall telecommunications market. The data reports indicate that all IXCs except AT&T, MCI, Sprint, and Metromedia together account for less than 12% of total IXC minutes of use.

Second, to show their non-dominance, MCI and Sprint provided some general information about their own market shares. Regarding intrastate interexchange service in general, MCI's share of statewide switched-access minutes of use is less than 15%. Sprint had less than 10% of total customers as of

September 30, 1987, and had less than 10% of revenues and less than 15% of originating minutes of use for the third quarter of 1987.

Regarding MTS, MCI carries less than a fourth of the volume of traffic carried by AT&T and has less than a 15% market share. Sprint's MTS market share is less than 10%. Sprint's share of the 800 market is less than 2%. Regarding WATS, MCI's share is less than 21%. Finally, Sprint had less than a 10% share of the services in the "all other services" market.

d. Summary

Based on the evidence gathered in Docket No. 7790, the examiner concluded the following:

* AT&T's total minutes of use slipped from 75 to about 67% during 1986, and has since remained steady.

* AT&T has about five times as many residential customers, but somewhat fewer business customers, than do the OCCs combined.

* AT&T has approximately 65% of the MTS revenues, a figure that is rising slightly after a drop from 74% at the beginning of 1986.

* During 1987, AT&T's revenue share in the 800 service market has declined from approximately 100% to 98%.

* During 1987, AT&T's revenue share in the operator services market slipped from about 90% to about 80%.

* AT&T's revenue share for "all other services" is steadily declining. Figures were cited for the specific services.

The Commission adopted the examiner's report but modified the finding on "all other services" market to exclude revenues related to Communications Transmission, Inc., a carriers' carrier, and to cite a combined revenue share figure for this category. AT&T's share of revenues on that basis during the third quarter of 1987 is 52.2%.

For purposes of clarification in this report on the status of competition, the services included in this fourth market are WATS, WATS-like, private line and virtual private line services. AT&T included revenues pertaining to its virtual private networks in the private line category. Because the examiner did not use the figures in the ICDR "other" category (where OCCs may have reported information on their virtual private networks), to the extent these OCCs have revenues from that service, AT&T's share would be overstated. Also, there is an unresolved discrepancy regarding the examiner's finding of AT&T's WATS revenues being "about 35 percent" and the third quarter 1987 ICDR figure of 37%.

3. Facilities

There are three types of IXCs. Facilities-based carriers provide interexchange service (such as MTS, WATS, 800 service, and PLS) using transmission facilities and switches that they own or lease. Resellers buy bulk or discounted service (such as WATS and PLS) from facilities-based carriers

and resell those services to end users. Resellers do not own or lease transmission facilities, but may own or lease switches. Carriers' carriers own and operate transmission facilities and sell bulk capacity to other IXCs, generally under long-term contracts. Carriers' carriers do not provide retail long-distance services to end users.

As these definitions suggest, adequate transmission capacity, switches and other facilities must be available and not prohibitively expensive for effective interexchange competition to exist. These issues are discussed with respect to various types of physical plant in the sections that follow.

a. Transmission Facilities

Texas IXCs use three main kinds of transmission facilities: fiber optics, microwave, and coaxial cable. Satellite capacity is also available, but is apparently used to provide little, if any, interexchange service. Fiber optics, the most recent technology, and microwave are the most widely used for new installations. Installation of coaxial cable began to slow in the early to middle 1970s. Installation of microwave began to slow in 1983 to 1985. The characteristics of fiber optic and microwave capacity are summarized in Exhibit II-J.

Network costs are relatively high due to the great distances that must be covered in Texas. For instance, ClayDesta has invested approximately $70 million in its network during the last three years. MCI, Sprint, and other OCCs have also invested heavily in their fiber networks. In contrast, AT&T had its network in place at divestiture. AT&T's facilities at the time of divestiture were mostly coaxial cable, but some were microwave.

The only comprehensive study of capacity and ownership of transmission facilities submitted as evidence in Docket No. 7790 was the study Spectrum Planning, Inc. (Spectrum) prepared for AT&T. As discussed subsequently, even that study missed some important issues.

For purposes of comparison, the Spectrum study converted all identified capacity into circuit miles. A circuit mile is defined as a communications facility that allows the transmission of a voice conversation between two end points one mile apart. Some information was also presented in terms of route miles. A route mile is defined as a transmission path one mile in length. It is a geographic representation only, and does not consider the number of circuits that travel over the transmission path.

As presented in the Spectrum study, the ownership of total circuit miles of capacity in Texas is as follows:

AT&T

			Circuit Miles			
	Route Miles		**Total**		**Operational**	
Microwave	15,423		94,319,899		94,319,899	
Fiber Optic	1,727		95,453,971		48,180,586	
Coaxial	640		16,940,362		16,940,362	
Total	17,790	(53.6%)	206,714,232	(39.1%)	159,440,847	(48.3%)

OCCs

	Route Miles		Circuit Miles: Total		Circuit Miles: Operational	
Microwave	12,121		54,266,541		54,266,541	
Fiber Optic	3,258		267,528,968		116,463,411	
Total	15,379	(46.4%)	321,795,509	(60.9%)	170,729,952	(51.7%)

The study showed that the voice circuit capacity of fiber-optic transmission can be easily and quickly increased by equipping unused fiber pairs with electronics known as repeaters, or by replacing repeaters with repeaters of higher capacity. According to Spectrum, it was only a year ago that transmission rates of 565 megabits-per-second were considered state of the art. A 565 megabits-per-second transmission rate allows 8,000 circuits per fiber pair. However, 1.76 gigabits-per-second systems are now available. Those systems allow for 24,192 circuits per fiber pair. Systems with a transmission capacity of 3.4 gigabits are expected to be available by 1990. Systems with a 6.8 gigabit capacity are under development, and a repeater has been tested successfully at 20 gigabits.

Although the higher-capacity repeaters are likely to become available over the next few years, it is not clear exactly when this will occur or how much such a capacity expansion would cost an IXC. Because the repeater used can have such a large effect on the fiber-optic capacity figures, the relative percentage shares of total capacity of AT&T and the OCCs are likely to fluctuate significantly over the next few years. The current capacity-utilization of the OCCs' transmission facilities relative to that of AT&T suggests that AT&T would generally be more likely than the OCCs to install the high-capacity repeaters.

The validity of the Spectrum study was highly contested by the parties in the market dominance proceeding. Concerns about the study included:

* To some extent, the relative capacity shares of AT&T and the OCCs could change depending on the stage of the construction programs of each. MCI, Sprint and Claydesta have largely completed their construction programs. In contrast, AT&T plans to replace or supplement much of its analog microwave facilities with either fiber-optic or digital microwave facilities. These additions should greatly expand AT&T's gross capacity. This suggests that AT&T's share of capacity might increase relative to that of the OCCs.

* The study did not consider switching capacity, which can limit the ability to carry traffic.

* The study included all transmission facilities that could be used to initiate and complete a call between two exchanges within the State of Texas. However, just because an IXC's system goes through a city or town does not necessarily mean that the system is accessible at that location. To provide service, an IXC must dedicate some band width to that location while the rest of the system goes on to the next network location. If all of the capacity is dedicated to other network points, service cannot be provided.

* The facilities included in the Spectrum study are also used for non-intrastate traffic. For instance, the Sprint facilities in Texas, which represent a large portion of the OCC capacity included in the Spectrum study, are part of the backbone of Sprint's interstate network. There was no attempt to quantify the amount of AT&T or OCC capacity available for

intrastate use, as opposed to interstate or international use. However, this would result in little, if any, overstatement of the OCCs' gross intrastate capacity relative to that of AT&T.

* The Spectrum study considered only transmission facilities owned by IXCs, not those leased to them by LECs. AT&T and the OCCs lease intraLATA transmission and switching facilities from SWB and independent LECs on an Individual Contract Basis (ICB). In addition, under the terms of the MFJ, SWB was allowed to retain and lease certain facilities to AT&T. These leases are governed by Shared Network Facilities Agreements (SNFAs). The SNFAs relate to intraLATA transmission facilities, central office facilities and operator services. They involve facilities leased only to AT&T, not to the OCCs. AT&T plans to eventually replace the leased facilities with AT&T plant. Information on the amount of capacity the OCCs lease from the LECs is not available. However, it is clear that AT&T leases a significant amount of capacity, and that this capacity is necessary for AT&T to be able to serve areas not served by its owned facilities. Further, it is unreasonable to assume that the relative percentages of owned capacity of AT&T and the OCCs resemble the relative percentages of total owned and leased capacity of AT&T and the OCCs. For all of these reasons, the examiner was not able to conclude that the OCCs have the capacity necessary to carry all of AT&T's traffic should AT&T raise prices above competitive levels. However, the evidence in the proceeding did suggest that the OCCs own enough capacity to allow them to carry much of this traffic in many locations.

b. Switches

An IXC uses at least one switch to provide service to end users. The price of switches has decreased to approximately $350 to $500 per port (access line or trunk) depending on the number of ports. In addition, many used switches are available, mainly due to mergers within the telecommunications industry. Used switches are offered at a 30 to 40% discount, which has contributed to the depressed prices for new switches. The total purchase and installation cost of a new switch is between $100,000 and $1,000,000, depending on the size of the switch.

An IXC can use a newly installed switch approximately one to three months after deciding to order it.

c. Points of Presence (POPs)

An IXC establishes a "point of presence" ("POP") at a location where it gains access to the local exchange network through an LEC. Normally POPs are located in the largest city or cities in a LATA. AT&T has 62 POPS in Texas that are used to provide intrastate MTS, among other things. AT&T is the only IXC with at least one POP in every LATA. MCI and Sprint have POPs in almost every LATA. No OCC has more than 20. Together, the facilities-based OCCs have 100 Texas POPs. The resellers have many additional POPs.

The 100 POPs of the facilities-based OCCs are located in 26 of the state's major cities. The number of such POPs ranges from one in Big Spring to ten in Dallas. The evidence in the market dominance proceeding does not show the locations of most of the resellers' POPs.

An IXC can originate service from its POP throughout the LATA by purchasing access from the LECs. The IXC need not own or lease switching equipment and transmission facilities connecting every Texas city and town. If the IXC has no POP in the LATA, it can still originate service in the LATA by buying foreign exchange service, leasing capacity from another IXC, or building its own facilities.

There are several ways for an IXC to terminate service in a LATA in which it has no POP. Usually, the IXC purchases another IXC's WATS or WATS-like service. Alternatively, it can buy private line facilities to the LATA and use the LECs' access service to terminate calls LATA-wide.

Because a portion of access charges is distance-sensitive, the closer a POP is to an end office, the lower the access charges. In deciding whether to build a POP, an IXC must consider if these savings offset the POP's cost. The cost of a POP is not detailed in the evidence.

AT&T has three times as many POPs as any OCC, which lowers its access costs to provide originating service to areas located some distance from a major city. The evidence in the proceeding did not show how much it would cost an OCC to achieve such an advantage by building such a large number of POPs. To date, apparently no OCC has found it advisable to do so.

4. Other Factors

a. Financial Condition

Most IXCs in Texas are quite small, some with annual revenues below $1 million. About half of the IXCs in the ICDR data base are owned by individuals or families.

Typically, such firms have trouble raising enough capital to allow for growth and to finance operating shortfalls. Short- to intermediate-term bank loans might at times be the only available source of outside capital. For some firms, even IXCs of medium size, debt capital might be either unavailable or conditioned on fairly onerous terms. Resellers, especially in small towns, have difficulty obtaining bank loans and often must give personal guarantees as security for equipment leases.

Profitability is becoming more common among IXCs. So is growth. The overall market for long distance service is expanding rapidly. Moreover, many OCCs' revenues are increasing at a rate considerably higher than the industry average, indicating that they are increasing their market shares. AT&T is also growing, and from a level substantially larger than that of even the largest OCCs. Nevertheless, some of the larger firms have strong prospects for improvement over the next few years.

There have been numerous mergers and acquisitions involving IXCs serving in Texas, including the recent acquisition of ClayDesta by Advanced Telecommunications Corporation. Many larger firms, including Sprint, have achieved much of their growth through such means. This probably indicates that many of the smaller competitors are weak. However, there is some evidence that combinations of smaller IXCs can produce a nationwide network with enough revenues to achieve profitability, at least on an operating basis.

Because of government policy and the need for telecommunications service, investors apparently expect the market to stay competitive, but are uncertain how many competitors will remain viable. Some analysts project the development of an oligopoly with as few as two or three players. However,

some OCCs are expected to provide faster revenue and earnings growth than AT&T, due to a temporary advantage in technology and the apparent ability to offer superior service.

AT&T is by far the largest and healthiest IXC whose financial condition is detailed in the record. Based on very recent data, the financial outlook for some large facilities-based OCCs is improving, although some of them have experienced very heavy losses. Some OCCs have done reasonably well by combining with other carriers or by seeking to occupy a niche in the market, such as providing operator-assisted services to hotels and hospitals. However, most Texas OCCs are very small and financially weak. The industry as a whole is perceived to be risky.

b. Dependence on Other Providers

AT&T is much less dependent on other IXCs' facilities and services than are the facilities-based OCCs, and far less so than are the resellers. However, for current services offered and locations served, many OCCs are not dependent on any other one IXC, and of the rest, many are dependent on another OCC rather than on AT&T. Constraints on availability of other IXCs' facilities and services have not prevented the OCCs from being able to offer terminating service statewide. However, they have contributed to the decisions of some OCCs to offer originating service only in limited parts of the state or to construct their own facilities.

c. Equal Access

Beginning in 1984, certain LECs began converting their end offices to equal access. "Equal access" is access provided by the LECs that allows any IXC to offer "1+" interexchange service and, conversely, allows customers to select an IXC to carry all long distance calls initiated by dialing 1+ area code + local number (1+NPA+NXX-XXXX). When an LEC end office is converted to equal access, the LEC sends a ballot to all customers served by that end office. The customer must return that ballot to the LEC, designating which IXC will provide that customer's 1+ interLATA long distance service. If a customer fails to select a 1+ interexchange carrier, one will be randomly assigned. Any customer may change 1+ carriers at any time, but there may be a fee to do so.

The extent to which equal access conversions have progressed affects MTS and operator services. Since divestiture, equal access has been available statewide for the provision of WATS, private lines, and 800 service. However, for other technical reasons, 800 service cannot be provided directly by an OCC in all end offices.

As of April 1988, the percentages of customer lines converted to equal access were: 91% for SWB; 79% for Central Telephone Company of Texas; 79% for Fort Bend Telephone Company; 76% for GTESW; 4% for Continental Telephone Company; and 0% for the other LECs. (See Exhibit II-K.) As of that date 83.6% of total customer lines in Texas had been converted to equal access. This figure is expected to reach 85% by the end of 1989.

As of March 1988, 301 of 520 SWB end offices (57.9%) and 143 of 319 GTESW end offices (44.8%) had been converted to equal access; by August 1988, this had increased to 60.9% for SWB and 46.4% for GTESW.

In terms of geographic area, much less of the state is covered by equal access. It is available mostly in urban, suburban, or incorporated areas. However, even when a city has equal access, some end offices may not be included. For instance, Austin has equal access in 19 out of 22 end offices;

46 out of 49 Houston offices are converted. Some of the smaller cities and towns covered by equal access include Fredericksburg, Bastrop, Mason, and Kyle.

Fifty-eight percent of non-equal access lines in Texas are served by independent LECs. The FCC has directed independent LECs to provide equal access within a reasonable period after the receipt of a bona fide request from an IXC. However, LECs in many rural areas of the state may never receive such requests. As a result, Texas may never achieve 100% equal access.

The effect of equal access on IXCs' ability to compete in the provision of MTS is tied to the advantages and disadvantages of the type of access an IXC is able to use to structure its network. There are four types of switched access, known as feature groups, an IXC can use to originate or terminate traffic. The advantages and disadvantages of the various feature groups--A,B, C, and D--are summarized in Exhibit II-L.

Feature Group D (FGD) is the type of access available in equal access offices. Also known as 1 + equal access, FGD enables an IXC to provide basic long distance service to their end user customers, who simply dial a ten digit number composed of 1 + area code + number desired. Although OCCs are not required to purchase FGD in equal access end offices, other types of access are charged the same rate.

Feature Group C (FGC) is the type of access that AT&T has in non-equal access end offices. Upon conversion to equal access, AT&T must change to FGD.

With Feature Group A (FGA) and Feature Group B (FGB), customers must dial up to 23 extra digits. The 23 digits consist of the telephone number of the OCC's business line (NXX-XXXX), the ten-digit number of the called party, and a personal identification number allowing the OCC to bill the customer for the call. The extra digits may be dialed by the customer or by an automatic dialer. OCCs sometimes provide such dialers to customers they are anxious to serve. These dialers cost from $175 for a one-line dialer to $400 for a four-line dialer.

Also with FGA and FGB, for billing purposes, an OCC must rely on a multi-digit security code dialed by the caller. This increases the chance of fraud.

FGA is a "lineside" connection, while FGB, FGC, and FGD are "trunkside" connections. Trunkside connections provide better sound quality than do lineside connections.

FGB was originally designed to provide LATA-wide termination of calls. However, there are an increasing number of LECs providing FGB switch points in large LATAs. This causes OCCs to restructure their networks or to incur higher expenses to obtain access from all LECs.

In non-equal access areas, persons with rotary telephones cannot use certain OCCs' service.

To offset these disadvantages, OCCs are supposed to receive a 55% discount for the origination and termination of all calls in non-equal access areas, even though FGB terminating access is identical to FGD terminating access. This lowers the OCC's overall costs even if the OCC does not offer originating service in non-equal access areas. Some OCCs have trouble obtaining the full 55% discount, however, because the actual amount of the discount varies widely, depending on the facilities and type of bill. According to the LECDRs for the fourth quarter of 1987, 20 OCCs structured their

networks using FGA or FGB, but not FGD. These OCCs accounted for only about 1% of the total minutes of use for that quarter.

As noted previously, the A&M study shows that AT&T's share of MTS revenues in non-equal access areas is 90.5%. Two factors contribute to this large market share:

1. the inferiority of FGA and FGB connections and other problems faced by the OCCs in serving non-equal access areas; and

2. many OCCs are less interested in serving there since most of the customers and revenues are in equal access areas.

In general, the evidence is inconclusive as to whether, given the current package of advantages and disadvantages of the various feature groups, the OCCs as a whole are competitively harmed by the continued unavailability of equal access in some areas of Texas. Even in equal access areas, some OCCs terminate on FGB rather than on FGD, presumably because of the cost advantage. However, the effect on the OCCs of exchanges not having been converted to equal access would change markedly if the cost differential among the feature groups were significantly reduced. The OCCs' connections in non-equal access areas are inferior, and cost is the only advantage that tends to equalize the competitive positions of AT&T and the OCCs in those areas.

d. Access Charge Discounts

Two discounts on access charges are important in Docket No. 7790: the 55% discount for FGA and FGB available to the OCCs and the WATS prorate credit available to resellers. The examiner in Docket No. 7790 indicated that AT&T cannot use either.

When a call is originated and terminated in an equal access area, all IXCs incur approximately the same level of access charges. However, when a call is originated in an equal access area and terminated in a non-equal access area, the OCCs receive a 55% discount on all terminating access charges, even though the access used is identical. However, as noted previously, the OCCs have begun experiencing one problem with FGB, but not FGD, terminations: the blocking of FGB calls by SWB at the independent LECs' request. AT&T estimated that as of the end of 1988 this discount will account for the OCCs paying approximately 4% less in access charges than does AT&T. However, the difference in the access costs of AT&T and the OCCs resulting from this discount is diminishing as exchanges are converted to equal access.

In addition to the 55% discount, many LECs' access-service tariffs provide for a credit allowing WATS resellers to pay business line rates rather than switched access charges. The rationale is that charging the reseller would result in the LEC double-collecting for originating access because the IXC whose services are being resold has already paid such charges. However, in some instances, no IXC pays switched access and the reseller receives the credit anyway. The Commission's general counsel instituted an inquiry, Docket No. 8218, seeking possible elimination of this discount. A resolution of the WATS prorate issue has become even more critical because the larger IXCs such as Sprint, MCI, and even AT&T recently indicated they intend to reconfigure their networks, as have some of the smaller facilities-based carriers, to obtain the benefits of the WATS prorate.

To some extent the access charge discounts reflect Commission encouragement of emerging competition in the interexchange telcommunications industry. Such discounts are significant, and to the extent that they are eliminated or reduced, the number of OCCs as well as their market share and ability to compete are likely to decrease, although perhaps not to the level that would have existed had such discounts never been implemented. The discounts may have helped at least some OCCs stay in business long enough to acquire expertise, a customer base, and other advantages that may help them survive.

e. Barriers to Entry and Exit

AT&T contends that because there are large numbers of IXCs in Texas, barriers to entry into or exit from the interexchange industry must be slight. However, there are few or no competitors with respect to some services in some locations.

Moreover, evidence regarding number of competitors is relevant, but is not a sure indication of whether barriers to entry or exit exist. A barrier to entry does not mean that competitors cannot enter the market. Rather, as expressed by a leading authority, a barrier is "anything conferring advantages on an established seller in an industry over potential entrant sellers, these advantages being reflected in the extent to which established sellers can persistently raise their prices above a competitive level without attracting new firms to enter the industry."

AT&T enjoys an absolute cost advantage over its competitors because it can obtain debt capital under much more favorable terms than can the OCCs. AT&T's debt ratings are higher than those of its competitors whose debt is publicly financed. An even greater difference in interest rates available to AT&T and Texas resellers exists because many of the latter must rely on bank financing. Moreover, AT&T is less dependent on debt financing than are the OCCs, due to its strong capitalization, greater ability to generate large amounts of cash internally, and greater ability to weather periods of change.

AT&T benefits from economies of scale because its transmission facilities are much more fully utilized than are those of the facilities-based OCCs. According to the Spectrum study, AT&T has about 40% of the circuit miles in Texas, but according to the ICDRs, it has about 64% of total minutes of use. The OCCs have only the remaining 36% of total minutes of use to recoup the cost of 60% of the state's facilities. Using gross revenues instead of minutes of use produces a conclusion that the OCCs earn half what AT&T earns but must maintain a network one and one-half times as large. Moreover, an IXC's network is designed as an integrated whole to efficiently transport both interstate and intrastate traffic. AT&T's market share in the interstate jurisdiction is between 70 and 80%. This large market share increases the economies of scale by allowing AT&T to use its Texas facilities to carry much larger volumes of interstate traffic than do the OCCs.

AT&T is also in a much more advantageous position than are the OCCs in terms of advertising and marketing. AT&T entered the era of interexchange competition with numerous long-term customers and a name that is a household word. AT&T also benefits from economies of scale and scope with respect to advertising and marketing.

In general, large users are more knowledgeable about OCCs' services than are small users. This is not surprising, because high levels of expenditures on telecommunications tend to justify large users spending the time and money to become sophisticated about their telecommunications alternatives. Also, because of such high levels of expenditures, the OCCs tend to take special pains to

educate such customers. However, small resellers still face obstacles in trying to convince large users to subscribe to their services.

Moreover, MTS customers generally perceive that AT&T offers better, more convenient, and more reliable service, and they demand a price discount to use an OCC's service instead. The A&M study shows that among commercial and residential MTS users, AT&T has a very high market share of customers to whom quality of service was the most important consideration, who considered one bill convenient, or who were resistant to change. The OCCs have captured a higher market share than AT&T only among those commercial and residential MTS customers to whom price was the most important factor.

In summary, it appears that virtually all IXCs have sacrificed short-term profitability in their quest to capture market share. This suggests that economies of scale, for instance, are important to this industry. The examiner found that AT&T enjoys advantages over its competitors and potential entrants in terms of financing, utilization of transmission facilities, product differentiation, advertising, and marketing. Also, AT&T has advantages regarding the cost of transmitting operator services traffic and access to an 800 data base. Such factors allow AT&T to charge higher prices for interexchange service than can the OCCs. However, to a degree the impact of such factors depends on the service market.

f. Advantages Enjoyed by OCCs

As discussed above, AT&T enjoys advantages over competitors and potential entrants that allow AT&T to charge higher prices than its competitors can. However, OCCs also enjoy three major advantages not available to AT&T. First, AT&T is regulated and OCCs are not. Second, AT&T must offer a full range of services statewide. In contrast, OCCs presumably are offering particular services in particular locations in Texas where they perceive significant opportunity for profit. They have much more freedom than does AT&T to choose locations to serve and to offer services in such locations. Third, the OCCs are eligible for significant access charge discounts. To the extent that such discounts do not reflect differences in quality of access, they are an advantage for OCCs relative to AT&T.

Such advantages explain why, despite barriers to entry and exit and advantages AT&T has achieved through vertical integration, OCCs have attained the numbers, market share, and ability to compete that they have. Because of such advantages, the OCCs can afford to offer prices lower than AT&T's regulated prices so as to obtain and retain some customers in some geographic and service markets. In other geographic and service markets, the OCCs' advantages have not been sufficient to compete effectively. Moreover, the OCCs must continue to charge prices below AT&T's to remain competitive.

F. IMPACT OF COMPETITION

1. Rural vs. Urban Areas

Based on the evidence presented in Docket No. 7790, it appears that rural customers have much less ability than do urban customers to obtain the same, equivalent, or substitutable interexchange services at comparable rates, terms, and conditions.

One disadvantage faced by rural customers is that more of them are located in non-equal access areas. Thus, if they do not use AT&T's service they must endure the 23-digit dialing and other problems resulting from the OCCs' inferior connections in such areas. The resulting access charge discounts enjoyed by the OCCs may or may not be passed on in full to OCC customers.

Moreover, urban customers have much larger numbers of competitors to choose from than do rural customers. For instance, of 67 IXCs that filed ICDRs, 29 offer service in Dallas, 30 in Houston, 22 in Austin, 10 in El Paso, and 21 in San Antonio. In contrast, some rural customers' only choice is AT&T, and AT&T is the only IXC that serves all locations in Texas.

However, at least eight IXCs offer service in each Texas LATA. The number of POPs served by facilities-based OCCs ranges from two in the Brownsville LATA to ten in the Dallas LATA. As discussed previously, an IXC can serve anywhere in a LATA in which it has a POP, assuming that it has the financial resources to do so. However, this does not mean that customers throughout that LATA know which OCCs are available or can persuade that OCC to serve them. Most OCCs offer originating service to two or three towns within 25 to 50 miles of their switch city. Even ClayDesta, a relatively large OCC, does not offer LATA-wide origination. Sprint originates MTS, 800 service, and operator services from about one-third to one-half of the exchanges in Texas. Sprint originates PLS from a much smaller percentage of the exchanges. MCI serves every equal access office, but no longer actively markets the type of service that permit customers from all areas to access the MCI network.

The reasons rural areas attract fewer OCCs include lower revenue expectations, greater expense, and lack of available facilities. It can cost an OCC more to serve in rural than in urban areas, for several reasons. First, such areas tend to be farther from the IXC's switch. Because the LECs' access services are to a degree distance-sensitive, this increases the cost of access. Second, to a much greater extent than urban areas, rural areas are served by independent LECs, some of which have traffic-sensitive access rates much higher than those of SWB. One company indicated it stopped serving in Giddings because GTESW's access rates there were so high. Third, maintenance costs may be higher in rural areas. As noted previously, POPs tend to be located in major cities. To keep maintenance costs low, MCI has a policy of not offering its special access terminated 800 service more than 50 miles from its POP or its WATS access line terminated 800 service more than 25 miles from its POP.

2. Residential vs. Business (Small vs. Large Users)

Large users of interexchange service have much less difficulty than do small users in securing service of similar quality under comparable conditions. Large users often have IXCs bidding for the right to serve. For instance, ClayDesta targets business customers, which now account for 70 to 80% of its revenues. Other OCCs indicated they too pursue commercial customers more aggressively than residential customers.

AT&T also markets its services to large commercial customers in urban areas. Large users have become very sophisticated about telecommunications services, often employing specialists or even telecommunications departments to manage their facilities and equipment. Business customers learn about their telecommunications alternatives through the marketing efforts of IXCs and through consultants, trade journals, periodicals, and seminars. In addition, many participate in organizations such as the Southwest Communications Association, a professional trade group for telecommunications managers in Houston. Its four hundred members include telecommunications experts from such

diverse organizations as First City Bancorporation, Houston Lighting and Power Company, Foley's, Cameron Iron Works, Houston Chronicle Publishing, and Vinson and Elkins.

Some large users subscribe to the services of five or more IXCs. Large customers have equipment programmed to automatically route their calls to the cheapest IXC for that call. With such equipment, the customer is not aware which IXC carried a particular call.

Very large users have an additional alternative: they can build their own telecommunications systems in whole or in part. Some customers are doing so.

3. Universal Service

In considering any effect competition may have had on universal service, it is difficult to separate local and long distance telecommunications issues. A more lengthy discussion is included in the section on competition in local exchange.

The two major aspects of universal service, however, are affordability and availability. Since divestiture, long distance rates have decreased, making that service more affordable when it is looked at without considering local rates. (See Exhibit II-M.) With regard to availability, SB 229 established a no-abandonment provision that will ensure that Texans will always have access to at least one long distance carrier.

4. Role of Small Resellers

As noted earlier, most Texas OCCs are small resellers. In assessing the extent to which competition or potential competition from such OCCs restrains AT&T's market power, it is helpful to consider what their businesses are like.

The investment needed to become a reseller is very small compared to the cost of becoming a facilities-based carrier, for instance, and explains why over half of the OCCs filing ICDRs are owned by individuals and families.

The access charge discounts have allowed the resellers to charge lower prices and thus compete. In addition to the 55% discount, resellers can take advantage of the WATS prorate credit, which is not available to non-resellers. In fact, Sprint indicated that in offering "Dial 1 WATS," that company had trouble competing with resellers because of the WATS prorate credit.

Most small resellers offer only MTS, WATS, and perhaps credit-card service. Resellers' offerings are so limited because of a lack of capital and expertise. A lack of capital also slows resellers' ability to offer service in new locations. Most resellers operate in small geographic areas.

Where they offer MTS, WATS, or credit card services, resellers contribute to the competitiveness of the market. For example, by purchasing interexchange service (WATS or PLS) in bulk, (i.e., wholesale) and reselling it in smaller lots (i.e., retail), resellers help to prevent cross-subsidies and to preserve a direct relationship between wholesale and retail prices. Also, many resellers add value, such as customized billing, to the interexchange service. The competition from resellers should help motivate facilities-based IXCs to improve their services.

In summary, small resellers increase the level of competition regarding the provision of MTS, WATS and credit-card services in the locations in which they serve. However, their role is to fill niches left unfilled by larger IXCs. For numerous reasons, including lack of capital, name recognition, or expertise, small resellers cannot hope to attain the economies of scale and scope and other advantages available to AT&T or even to MCI, Sprint, or ClayDesta. Where resellers serve depends on where affordable capacity is available. Moreover, they are more vulnerable than are large IXCs to changes in the local economy, regulation, and level of competition.

5. Consumer Protection Provisions

SB 229 amended PURA to establish certain requirements for dominant and non-dominant IXCs. These requirements, referred to as the consumer protection provisions, are discussed below.

a. Summary of Consumer Protection Provisions Applicable Only to Dominant Carrier

Under S.B. 229, the Commission must take steps to ensure that an IXC's fully regulated services do not subsidize either directly or indirectly its unregulated services or regulated competitive services. In Project No. 7789, the Commission has adopted a rule establishing a method for separating costs to prevent such subsidization.

IXCs that have been found to be dominant in a service market will be presumed to be dominant as to any new service they offer if that service is equivalent to other services in that service market. If any new service markets are established, they are subject to a dominance determination by the Commission. Any IXC found dominant in any service market may petition the Commission for a redetermination, but not prior to January 15, 1990, unless otherwise authorizied by the Commission.

b. Summary of Consumer Protection Provisions Applicable to All IXCs

Under S.B. 229, effective on and after December 31, 1988, new requirements apply to all IXCs, not just dominant carriers. These provisions state that the Commission:

* may require **registration** and other information (Sections 18(c)(1), (2) and (3)), and shall require each IXC to **maintain on file tariffs** governing the terms under which its services are provided (Section 18(d));

* may require **statewide average rates** (Section 18(c)(4));

* may require that **every local exchange area have access to interexchange service.** However, the Commission must allow an IXC to discontinue service to a local exchange area if comparable service is available in the area and discontinuance is not contrary to the public interest. Also, the Commission may not require an IXC that has not served a local exchange area during the past year and has never served that area for a one-year period to begin serving that area (Section 18(c)(5));

* may require that an IXC providing a service **make that service available in an exchange it serves** within a reasonable time after receipt of a bona fide request for such service in that exchange, subject to the ability of the LEC to provide any necessary services. However, no IXC may be required to serve an area if doing so would, considering the public interest to be served, require unreasonable expenditures by the IXC (Section 18(o));

* may require an **adequate quality of service** in each exchange if the Commission determines that service to an exchange is no longer reliable (Section 18(c)(6));

* may enter such **orders** as may be necessary to protect the public interest if the Commission finds upon notice and hearing that an IXC has **failed to maintain statewide average rates, abandoned interexchange MTS** to a local exchange area in a manner contrary to the public interest, or **engaged in a pattern of preferential or discriminatory activities** prohibited by PURA Sections 45 and 47. However, volume discounts and other discounts based on reasonable business purposes are not prohibited (Section 18(m)); and

* may enter such **orders** as may be necessary to protect the public interest, including full regulation of any specific service or services, if the Commission finds upon notice and hearing that an IXC has engaged in conduct that demonstrates the **ability to control prices** in a manner adverse to the public interest (Section 18(l)).

Section 18(q) authorizes the Commission to exempt from any requirement of Section 18 any IXC that does not have a significant effect on the public interest or relies solely on others' facilities to complete long distance calls.

In summary, the Commission may require statewide rates, may in some instances require service or prohibit discontinuance of service, may require reliable service, may take action to curb preferential or discriminatory activities, and may take action, including re-regulation, against any IXC that demonstrates market power.

G. RECOMMENDATIONS FOR FUTURE LEGISLATIVE ACTIONS

During Docket No. 7790, the examiner found that one area in which the Commission's current authority may be inadequate is in that of alternative operator services (''AOS''). Such operator services providers pay commissions to large users for the right to serve, then pass the cost of such commissions on to end users. This practice can create several problems: end users may not know that they will be assessed these additional costs or have a practical alternative to using the services of the operator services provider. The Commission is willing to work with the Legislature to ensure that the public interest issues of alternative operator services are addressed.

III. COMPETITION IN LOCAL EXCHANGE TELECOMMUNICATIONS

In contrast to the interexchange telecommunications industry, in which discussions about competition focus on the degree and extent of competition, at the local exchange level the question is whether competition really exists at all. Most parties would agree that at best, competition is only "nibbling at the fringes" of the local exchange industry.

However, many of the larger local exchange carriers do contend that competition in some areas of their business is significant. Indeed, the Texas Legislature amended PURA in 1987 to provide for more flexible regulation of competitive services.

This report establishes a framework for understanding which segments of the local telecommunications industry are subject to competition, and how competition may be defined by various parties. This information was not developed in conjunction with an evidentiary hearing, as was the case for the statistics on competition in the long distance industry. To set the stage for this analysis of competition, a discussion of relevant background and current Commission actions is included.

A. HISTORICAL BACKGROUND

1. Deregulation of Services

The Federal Communications Commission ("FCC") has pursued an aggressive deregulation policy during the past twenty years in its regulatory decisions concerning telecommunications carriers in the U. S. Many of those decisions have had a significant impact on telephone utilities and customers in Texas.

Prior to 1968, telephone companies provided service that included instruments on the customers' premises, and would not allow any other equipment to be connected to the network. In the 1968 "Carterfone" decision, the FCC ordered an end to the telephone company's blanket prohibition against attaching customer provided equipment to telephone lines. That decision resulted in the proliferation of competitive offerings of customer premises equipment, or CPE. This included not only basic telephones, but also larger units such as the multi-line private branch exchanges (PBXs) and smaller "key systems" located on the customer's premises.

By the late 1970s, it had become clear that the competitive provision of CPE was working, as an increasing number of vendors were offering new and innovative products. In the 1980 decision in the Second Computer Inquiry ("Computer II"), the FCC deregulated the provision of all but "basic" communications service, and deregulated telephone company provision of telephone equipment used on a customer's premises. This massive deregulation took place beginning January 1, 1983. Telephone companies were ordered to remove CPE offerings from their tariffs by no later than year-end 1987.

As a result of the Computer II decision, many telephone utilities, including the pre-divestiture AT&T/Bell system, formed separate subsidiaries to install and maintain customer premises equipment. Some utilities chose to recognize the non-regulated activities through special accounting entries; the Bell companies were permitted to do so under a later FCC decision.

Computer II also established the early ground rules for the provision of new and enhanced services such as data transmission and cellular mobile phone service. Such services would not be considered a part of the regulated telephone company, but could be provided by a separate subsidiary or under separate accounting treatment.

In another sweeping policy decision, the FCC ordered all telephone utilities to detariff the provision and maintenance of inside wiring on customers' premises effective January 1, 1987. While this service can be provided by the telephone utilities through separate accounting treatment, the installation charges for wiring are no longer regulated by the FCC or state regulatory commissions, and most companies have revised customers' monthly billings to reflect the separate cost of wiring maintenance.

2. Divestiture

On January 1, 1984, under a federal consent decree known as the Modified Final Judgment ("MFJ"), the breakup of the 100-year old Bell System took place. The primary objective of the MFJ was to eliminate the impediments to competition in the interexchange industry. This was accomplished in the following ways:

By divesting AT&T of its local exchange operations. The Bell operating companies (known as "BOCs") were then restricted from providing interexchange service except in their designated local serving areas, named local access and transport areas ("LATAs").

By imposing additional line of business restrictions on the BOCs in the areas of equipment manufacturing and provision of information services.

By requiring the divested BOCs and similar General Telephone operating companies to develop a plan to offer equal access to competing long distance companies.

B. OVERVIEW — STATE PUC JURISDICTION

Each state must establish rates for the regulated local exchange companies' intrastate services, including local exchange service, intrastate long distance, and access to the interexchange intrastate network. In Texas, the Public Utility Commission is vested with the authority to regulate telecommunications utilities according to the Public Utility Regulatory Act ("PURA").

PURA subjects dominant telecommunications utilities to rate base, rate of return regulation in which the utility is granted the opportunity to earn a fair return on appropriate investment. Local exchange companies are designated dominant carriers by statute, and are granted the authority to provide telephone service in geographic areas for which the Commission issues them a certificate of convenience and necessity.

C. CHANGES MADE BY THE SEVENTIETH TEXAS LEGISLATURE (SB 444)

The Seventieth Texas Legislature amended PURA to provide for more flexible regulation in limited situations for local exchange carriers. These changes included:

* Granting the Commission the authority to determine whether certain services are competitive. Competitive services can then be regulated by more flexible methods such as establishing a range of rates, authorizing customer-specific contracts, or de-tariffing specific services. (De-tariffing allows rate flexibility but preserves the Commission's authority over revenues from that service.) This flexibility does not extend to the regulation of basic local exchange service.

* Requiring the Commission to develop rules to allow for the expedited introduction of new or experimental services and promotional rates, thereby ensuring that Texans benefit as quickly as possible from the emerging technology and services of the telephone industry.

* Initiating a proceeding in which cost standards are developed to ensure that all rates for competitive services cover their appropriate costs.

* Initiating a streamlined procedure for limited rate changes in small telephone companies and cooperatives. Companies that have fewer than 5,000 access lines may change rates without Commission review as long as such changes do not increase total gross annual local revenue by more than 2.5% per year or increase the rates for any service category more than 25%.

* Creating two programs — Tel-Assistance Service and High Cost Assistance — to help keep telephone costs affordable for low income Texans, and for customers in high-cost service territories in the state.

D. COMMISSION ACTIONS REGARDING COMPETITION

To implement the provisions of SB 444, the Commission adopted a series of additions to its Substantive Rules. Sections 23.26, 23.27, and 23.28 create flexible mechanisms for introducing and pricing services offered by the state's local exchange carriers (''LECs''). Sections 23.52 and 23.53 establish the Tel-Assistance Program, the Universal Service Fund, and High Cost Assistance.

1. New and Experimental Services (Section 23.26)

Section 23.26 of the Rules establishes a new process by which LECs may offer and price new and experimental services. The provisions of this rule allow an LEC to receive expedited processing and approval of its application for a service offering. The LEC must file an application with the Commission and the Office of Public Utility Counsel at least 30 days before the service's proposed effective date. The LEC must document that the proposed rates for the service will recover the systemwide long run incremental cost of the service and provide a contribution to joint or common costs, thereby demonstrating that the service is not being subsidized by the LEC's other regulated services. If the service is not to be offered systemwide, the LEC must explain the nature of the technical inability to provide the service in each exchange in which the service is not to be offered. Further, the LEC must include an implementation plan for offering the new service in such areas if those customers request it. This provision of the rule helps ensure that rural areas of the state are not denied access to advanced telecommunications services.

The Commission will expedite applications for new or experimental services through its "administrative review" process unless the presiding examiner determines that the application should be docketed to receive a more thorough review. If the application proceeds under administrative review, the examiner must determine that the service meets the requirements of Section 23.26 as listed above, that the proposed rates are not discriminatory, and that provision of the service is consistent with the public interest. If the application is docketed, the operation of the rate schedule is suspended to 120 days after the applicant files all of its direct testimony and exhibits, or to 155 days after the effective date, whichever is later.

To date, two requests for new or experimental services have been filed under this rule.

2. Competitive Services (Section 23.27)

If the Commission finds a particular LEC service to be subject to significant competition, that service may be eligible for special pricing flexibility under the provisions of Section 23.27. An LEC may apply to have a service declared subject to significant competition by using a process similar to that described for new and experimental services. Section 23.27 limits the services which may be declared to be subject to significant competition to the following: packet switching services, digital private line services, central office-based PBX-type service of more than 100 stations, mobile telephone service, and paging service. After August, 1989, LECs may petition to have any service declared competitive with the exception of basic local exchange service.

The LEC must submit information substantiating the competitive nature of the service market in question. The LEC must demonstrate in an evidentiary hearing that a number of criteria are met, including the availability of substitutable services, the absence of significant barriers to entry in the market, the threat to the service's contribution, and the threat to the recovery of the service's investment. Further, the LEC must show that the proposed rates would recover the service's systemwide long run incremental cost and that the pricing flexibility requested is appropriate given the extent of competition in the market.

The Commission may approve flexible pricing of the following types: rate banding, customer-specific contracts, detariffing, or some other appropriate form. If rate banding is approved, the Commission must establish minimum and maximum rates. The minimum rate must recover the systemwide long run incremental cost of the service plus a contribution to joint or common costs. If the LEC requests the use of customer-specific contracts, it must show that the rates in the contract meet the cost standard described above, that the rates are not unreasonably discriminatory or preferential, and that the customer contracting for the service has received a legitimate bid for a substitutable service.

To date, no competitive service applications have been filed with the Commission, despite the fact that the rule has been in effect for almost a year. The local exchange industry has suggested that the pricing standards set forth in the rule unreasonably limit the companies' ability to respond to competitive pressures for specific services.

In accordance with a clause in Section 23.27 that requires its reevaluation, a rulemaking is underway to allow parties to comment upon and recommend changes to the rule. The Commission published two versions of proposed changes. One version grants more flexibility in the cost standard which would apply to any given application; the second version permits services to be priced on a customer-specific cost basis.

Comments on the proposed changes are due in January, 1989, after which the Commission will consider the adoption of any modifications to the rule.

The competitive services rule allows certain applications to be eligible for expedited treatment. The Commission must approve or deny the application within 30 days of receiving a complete filing unless the presiding examiner, for good cause, suspends the effective date for an additional 35 days. If the examiner denies the application in administrative review, the LEC may request that the application be docketed. In such instances, the Commission's rules for docketed proceedings are applicable.

Prior to the Commission's adoption of Section 23.27, Southwestern Bell ("SWB") had the authority to offer certain services priced on a customer-specific basis. As a result of Docket No. 6181, SWB offers digital private line services with bit rates of greater than 1.544 megabits per second on a contractual basis. The customer-specific rates accompany the tariff that grants SWB its pricing authority. SWB's Plexar, Custom, and Central Office Local Area Network services may be priced in a similar fashion. When SWB provides these services, the tariffs themselves are customer-specific. For all of these services, the rates are based on customer-specific incremental cost.

It is unclear at this point whether the adoption of Section 23.27 preempts SWB from using these tariffs.

3. Promotional Rates (Section 23.28)

The Commission's rules concerning promotional rates were designed to provide LECs with the opportunity to increase subscribership to particular services. The LECs may receive expedited review of their applications for promotional rates under Section 23.28.

The filing requirements and Commission review process for promotional rates are similar to those for new or competitive services. With its application for promotional rates, the LEC must define the period in which the rates are to be in effect and provide a description of all instances in the last 5 years in which the LEC has utilized this rule previously. This provision helps ensure that the services are not offered for periods which would prove to have predatory effects or which would require subsidization by regulated services.

The Commission also established the following limits on the use of promotional rates:

* they must be in effect in every exchange in which the LEC offers the service, unless a waiver is granted;

* they must not be offered for more than 6 months in any 5 year period, and no customer is to receive a service at promotional rates for more than 3 consecutive months;

* they may be offered only to new customers of a service; however, current customers may purchase additional units of the service at promotional rates; and

* they must recover the long run incremental cost of the service, with the following exception: the LEC may request a rate lower than cost if it can demonstrate that the promotional rate will make full cost recovery more likely. However, the Commission will not

approve rates below incremental cost if the service has been found to be subject to significant competition.

To date, no applications for promotional rate offerings have been filed under this rule.

4. Lifeline Service

Following divestiture, the FCC approved the Subscriber Line Charge ("SLC"), which is added as a separate line item to each telephone subscriber's monthly bill. This charge was intended to compensate local telephone companies for providing the facilities that connect each customer to the network. Previously, these costs had been covered by higher interstate long distance rates.

To preserve universal service in the face of these additional charges, in December 1985 the FCC established a "lifeline assistance program" designed to reduce monthly basic telephone rates for low-income households. States that establish programs that meet the FCC specifications obtain a waiver or reduction of the SLC for program participants. State "lifeline" programs may differ considerably in terms of the criteria for determining eligibility and the amount and kind of assistance provided. However, to qualify for the SLC waiver or reduction, the FCC has determined that the state program must meet the following minimum requirements:

* the eligibility requirements must be targeted to low-income individuals;

* there must be verification procedures to ensure that program participants are eligible, and eligibility must be reestablished annually;

* assistance is available only for a single telephone line at the participant's principal residence; and

* expenditures must be made at the state level, whether by state funds or by the telephone companies themselves.

On a case by case basis, the Texas Commission is working with local telephone companies to establish lifeline programs that will provide discounted basic telephone service to a larger number of low income Texans. For example, as part of the negotiated settlement of the status of Contel's earnings subsequent to the effects of the tax reform act changes, the Commission approved a lifeline service program that provides a discount equal to the subscriber line charge to Contel customers whose incomes fall below the federal poverty level and to customers who qualify for any other means-tested assistance program.

5. Tel-Assistance Service (Section 23.52)

To help assure the continued availability of telephone service to disadvantaged Texans, SB 444 established the Tel-Assistance service program. Tel-Assistance Service provides a 65% discount on basic local exchange telephone service to Texans who are over 65, disabled, the heads of households, and whose incomes are at or below the federal poverty level. Because Tel-Assistance meets the requirements of the FCC lifeline program, recipients are also entitled to a waiver or reduction of the federal subscriber line charge, which increased from $2.60 to $3.20 in December 1988, and which is scheduled to increase to $3.50 on April 1, 1989.

The Commission worked with the 66 local telephone companies and the Department of Human Services ("DHS") to establish Tel-Assistance. DHS, through a toll-free 1-800 number, provides applications to those who believe they may be eligible for the service. DHS notifies the local exchange carriers of those applicants who qualify, and the carriers begin providing the discount after ascertaining that the applicant's telephone service arrangements meet the appropriate requirements.

Local exchange carriers began providing Tel-Assistance Service in September 1988. As of December 10, 1988, approximately 25,000 applicants have been found qualified to receive Tel-Assistance by the Department of Human Services.

Local exchange carriers are reimbursed for the lost revenue associated with providing the 65% discount through the Universal Service Fund. Each local company produces monthly reports showing the number of Tel-Assistance recipients in its service territory and the corresponding amount the company is entitled to recover from the fund.

6. Universal Service Fund (Section 23.53)

The "Universal Service Fund" ("USF") established by SB 444 is designed to promote telephone subscribership throughout Texas. The fund serves two purposes. First, it reimburses local telephone companies for providing Tel-Assistance service to elderly disadvantaged Texans. Second, it is intended to provide assistance to local exchange carriers which operate in high-cost rural service territories in the state. The fund also reimburses the Commission and the Department of Human Services for the cost of administering these programs.

The USF is funded by assessments to all telecommunications utilities, both local and long distance, with access to the customer base. The assessment is based upon "access minutes of use." Local exchange carriers collect this information for all telephone utilities and report the minutes to the Texas Exchange Carrier Association ("TECA"), with which the Commission has contracted to administer the USF. TECA distributes bills and collects payments from the carriers, and reimburses the agencies for their expenses and the local exchange carriers for their lost revenues associated with providing Tel-Assistance service.

Because all telecommunications utilities are required to support the USF in an amount proportionate to the access minutes they purchase, the potential effects on competition should be minimal. Although several non-regulated resellers of interexchange service have objected to being subject to the assessment, the USF assessment to those carriers is uniformly low, and it is therefore unlikely to significantly affect the financial condition of those companies.

The fund began operating in November 1988 in conjunction with the initiation of the Tel-Assistance program. Most of the administrative costs incurred thus far have been associated with the substantial start-up requirements for the program. The USF's billing, collection and disbursement system provides for quite specific accountability and financial tracking for the many parties which participate in the fund. These features were established particularly to address the various parties' concerns that in the event that high cost assistance is implemented, the volume of funds being channeled through the USF could be quite large. At this time, however, high cost assistance has been deferred; consequently, the administrative costs of managing the USF may seem disproportionately large relative to the funds distributed in the Tel-Assistance program.

7. High Cost Assistance (Section 23.53(d))

The objective of Section 23.53(d) is to provide financial assistance to those local exchange carriers which operate in high cost rural service territories, and thereby keep local rates for those companies affordable. SB 444 granted the Commission the authority to determine the eligibility requirements for such assistance and to establish the formula which would be used to determine the amounts companies may receive.

Local exchange carriers in Texas currently pool the revenues they collect from providing intraLATA toll service to consumers. Those revenues are reallocated among the LECs based upon a formula which reimburses each company's operating costs. The remaining revenues are allocated to each company based on its investment.

The local exchange industry supported the high cost assistance provision of SB 444 so that local carriers in high-cost rural territories would be protected from potential future changes in these toll pooling arrangements. A significant change in the toll pooling process could greatly reduce the revenues some local carriers now receive, and consequently force those companies to seek higher local rates to compensate for those losses. High cost assistance is aimed at preventing those rates from becoming unreasonably high.

In working with the Commission on the development of the high cost assistance rule, representatives of the telephone industry stated that there is no current need for high cost assistance to any local carriers in the state. Therefore, the Commission has deferred the development of the specific provisions of high cost assistance until such time as the assistance is needed. Upon petition by any party, or at its own discretion, the Commission may initiate a proceeding to establish the provisions of high cost assistance. At that time the Commission will also determine the basis upon which telecommunications utilities will be assessed to finance high cost assistance.

8. Link Up America

In April 1987, the FCC expanded the lifeline assistance program to include "connection assistance" and initiated a program called "Link Up America." Texas was selected to be one of the four pilot areas for implementation of Link Up, along with Arkansas, West Virginia, and the District of Columbia. Southwestern Bell served as the pilot company for the Texas program, which was approved by the Commission in September 1987 and by the FCC the following month.

Link Up America reduces the up-front charges for low-income households obtaining initial telephone service. Eligible households receive a reduction of 50%, up to $30, off the initial hook-up charges. Telephone companies recover this amount from a pool of funds administered through the National Exchange Carrier Association. In addition, the FCC aimed at reducing other up-front charges paid by Link Up recipients by encouraging Link Up providers to establish deferred payment programs and to reduce or waive security deposit requirements for customers who do not have poor credit histories.

State Link Up programs must meet the following requirements:

* the participant must not have received telephone service in the past three months, must not be a dependent under the age of 60, and may receive Link Up benefits only once every two years;

* the participant must meet state determined income criteria; and

* a combination of verification and self-certification may be used to determine that eligibility criteria have been met.

In Texas, the Commission determined that income eligibility could be established through two types of criteria: the receipt of certain public assistance benefits (such as food stamps or Aid to Families with Dependent Children), or proof of an income level below the federal poverty guidelines as demonstrated through a copy of the applicant's federal income tax return. The local telephone company reviews copies of relevant documents to verify that the applicant meets the income eligibility requirements established by the Commission. The other eligibility criteria are reviewed by the telephone company to the extent possible, but are generally subject to self-certification on the part of the applicant.

By the fourth quarter of 1988, 29 local telephone companies had implemented the Link Up America program, and over 13,000 customers had been brought onto the network in Southwestern Bell territory alone.

9. Access Charge Task Force

In September 1988 the Commission established an Access Charge Task Force to evaluate the system of intrastate access charges in Texas. Access charges are the means by which local telephone companies are compensated by interexchange carriers for providing access to their local networks and to the end user. The structure of access charges and the level of rates for intrastate calling in Texas were established by the Commission in 1984. The intrastate charges were modeled in large part upon the May 1984 FCC-approved system of access charges for interstate calling.

Since 1984 much in the telecommunications industry has changed. The FCC has modified its method of recovering access-related costs, and interstate access charges have therefore gone through several rate structure changes and the rates have been lowered. Intrastate access charges, however, have remained constant since they were first established in June of 1984.

The task force is charged with providing recommendations and policy options to the Commission regarding potential modifications to the intrastate access charge system. The task force consists of twenty-seven members: five representing local exchange carriers, five representing interexchange carriers, one representing the State Purchasing and General Services Commission, eleven from the consumer and intervenor community, and five from the Commission staff.

The Commission has prepared and distributed training materials for the task force members, and the meetings of the group will be initiated in January. The task force will address issues which could affect the distribution of revenues within the telecommunications industry, the methods for allocating costs to specific services, and ultimately the price of local and long distance service in Texas.

10. WATS Prorate Case

In June 1988, the Commission general counsel filed an inquiry into the application of the WATS prorate, Docket No. 8218. The prorate allows resellers of long distance service to purchase access from local exchange carriers at substantially reduced rates. The state's largest interexchange carriers plan to reconfigure their operations to take advantage of the economic incentives afforded by the prorate. One implication of the reconfiguration is that local exchange companies would experience revenue reductions.

Docket No. 8218 will go to hearing in January 1989. A Commission decision is expected in mid-1989. The scope of the decision is to be limited to the determination to establish a subsequent proceeding in which the prorate is eliminated. To avoid ex parte communications, no further details of this case have been included in this report.

11. IntraLATA 1+ WATS and 800 Service Competition Case

Docket No. 7330 was severed from Docket No. 7020 in January 1987 as a result of issues raised by MCI relating to the Public Utility Commission's policy regarding the provision of intraLATA Wide Area Telecommunications Services (WATS) and 800 telecommunications service. Present PUC policy does not prohibit intraLATA competition. However, all 1+ dialed intraLATA calls are handled by the local exchange carriers in the state. To have an intraLATA call completed by a designated long distance carrier over a WATS access line or an interstate multi-jurisdictional WATS access line, a customer must dial additional digits. If granted, MCI's petition would allow interexchange carriers to presubscribe customers for 1+ intraLATA WATS and to compete directly with local exchange carriers for 1+ intraLATA 800 service traffic.

An Examiner's Report has not been issued with regard to this proceeding. Therefore, to avoid ex parte communications no further details of the case have been included in this report.

E. STATUS OF COMPETITION

There has not yet been dispute as to the fact that the local telephone companies remain dominant providers of service, and consequently there was not an evidentiary hearing concerning local exchange competition. Therefore, this discussion of the status of competition in the local exchange market will concentrate on a description of selected services in which local exchange companies perceive competition and other areas where there appears to be the potential for competition to be initiated.

Commission staff issued a questionnaire to the 66 local exchange companies in Texas to receive their comments on the scope of competition in their service areas. Summaries of the responses are provided in the relevant categories listed below. Exhibits III-A, III-B, III-C and III-D provide statistics on the relative size of the 66 LECs and the local exchange industry in Texas.

To the extent possible, opinions of "competitors" have also been included to provide a more complete picture of the status of competition. It is important to distinguish between true competition, in which two parties are vying for a third party's business, and some aspects of competition described by the LECs, where, in many cases, the event identified as competition is actually a loss of revenues resulting from a business customer leaving the local exchange network.

To more clearly address the status of competition in local exchange telecommunications, this section contains a discussion of the status of competition in five categorizations of local exchange service:

* Non-Regulated Services
* Basic Telephone Service
* Access Service
* IntraLATA Toll
* Non-Basic Telephone Services

1. Non-Regulated Services

Although Section 18(k) of PURA directs the Commission to include in this report the scope of competition in regulated telecommunications markets, it is important to recognize that a large and clearly visible portion of the competitive activity affecting local exchange carriers today is in services that have already been deregulated. A description of the status of competition in these deregulated services or markets will help focus the later discussion on competition in regulated service categories.

a. Customer Premises Equipment

The most obvious evidence of competition in non-regulated markets is in the provision of customer premises equipment such as basic telephones and business communications systems. As predicted by the FCC, deregulation of this portion of the telecommunications industry has resulted in the creation of numerous vendors and the development of many useful technological features. Initial concerns regarding reduced quality and workmanship have been overshadowed by innovation and technological advancement by these competitive vendors.

b. Inside Wiring

Competition has also had an impact in the premises wiring market, although it has been most visible in systems for large customers. There is much less opportunity for innovation and technological advancement in the provision of premises wiring, and residential and small business users as yet have experienced only limited impact from the deregulation of inside wiring. Many local exchange companies have begun to offer inside wire maintenance plans where a customer can pay a monthly fee to have the LEC continue maintaining inside wire.

c. Directory Publishing

Directory publishing basically consists of the following: 1) collecting current information, for both residence and business subscribers, regarding both the address or location of the subscriber and the subscriber's current telephone numbers; 2) putting this information into an attractive format with maps, zip codes, helpful hints, dialing instructions, emergency numbers, advertising, coupons, etc.; and 3) distributing a completed product to as wide a base of subscribers as possible for the designated calling area.

The primary competition within the directory publishing arena is concentrated in yellow page advertising and publication, which generates the greatest amount of, if not all, the revenue for the directory publisher. (Certain aspects of directory publishing, such as extra listings, remain a regulated service.) There are a number of directory publishing firms throughout the United States competing

for the advertising dollars of businesses. Some of the larger publishing firms have established distribution networks in many directory publishing areas within Texas.

Telephone company publishing efforts are handled by separate subsidiaries, and these companies compete with each other and with non-telephone company publishers. For instance, Southwestern Bell publishes its own Yellow Pages and the directories for other areas such as Manhattan, Baltimore, and Washington.

d. Cellular Mobile Telephone Service

Cellular service in Texas is not provided by local exchange carriers as a part of their regulated utility operations. The provision of cellular service is by carriers approved by the FCC for particular areas. Each area can be served by an LEC affiliate ("wireline" company) and a non-LEC affiliate. The LEC affiliate does not necessarily serve in the area of its local exchange operations. For example, SWB is the LEC serving Austin, but a GTE affiliate provides the cellular service. Cellular telephone units are fully competitive and are available for purchase from many vendors.

Many LECs continue to provide the older version of radio-telephone service (Improved Mobile Telephone Service, IMTS) as a regulated, tariffed offering. Cellular mobile telephone service is distinguished from mobile telephone service by the manner in which cellular service is provided. Cellular service relies upon several radio towers, or cell sites, that serve a limited geographic area. These "cells" are interlocked; they appear as a honeycomb when superimposed on a map. As a cellular user travels across a city, the cellular provider's mobile telephone switching office, or MTSO, ensures that the call is transferred between cell sites. The transfer between cell sites is never noticed by the user. The use of multiple cell sites allows a number of conversations in different parts of the cellular carrier's service area to be carried on the same bandwidth.

As a result of the FCC licensing arrangements, there are opportunities for competition in the provision of cellular service in metropolitan areas.

2. Basic Telephone Service

Basic local telephone service is provided to residential customers, single-line business customers, and large business customers. There is no significant competition for basic residential telephone service at this time, and there is only a limited degree of competition for basic service to business customers. It is possible, however, that technological and rate pressures in the future could substantially affect the level of competition in the local exchange.

Commonly mentioned areas of current or potential competition for basic local exchange telephone service are: shared tenant services, cellular radio, cable television, satellite networks, and other local exchange carriers.

a. Shared Tenant Services (STS)

During the accelerated period of commercial real estate development in the early 1980s, an increasing number of new buildings were designed with an integrated technological package which included specialized telecommunications. A tenant is provided service through a PBX switch located in the building, and can obtain features such as voice messaging and alternative toll carrier selection. The Shared Tenant Service ("STS") provider obtains local service through PBX trunks provided

by the LEC, and often obtains toll service from a number of IXCs. Local exchange carriers have viewed this configuration as the competitive provision of local exchange service within the building or property. However, the Commission has ruled that the existence of STS arrangements cannot prohibit a subscriber from requesting and being granted the right to obtain telephone service from a local exchange carrier.

Businesses in the building obtain telephone service from the STS provider rather than obtaining distinctly separate telecommunications service directly from the telephone company. Although the telephone company is still providing the standard access lines to the building, fewer lines may be required and the LEC loses the opportunity to market optional services to the end user.

Once feared to be a significant area of competition, STS now appears to have only limited impact on local exchange company revenues. Only a few LECs indicated that there was competition from STS providers. Although no specific financial information is available, Southwestern Bell believes that there are currently in excess of 100 shared tenant sites within the state.

b. Cellular Service

Cellular mobile telephone service is perceived by LECs to be a competitive threat to local exchange service. It is estimated that there were over 100,000 cellular telephone units in use in Texas at year end 1987. However, cellular service is currently not affordable for the general body of telephone users. It is only available in certain portions of the state, generally the metropolitan areas. There are concerns regarding privacy of communications that use radio channels rather than physical facilities. And further, the radio frequencies available for cellular service are currently restricted. There are technical limitations on the assignment of radio channels in the U.S., and those frequency allocations are guarded closely by the FCC.

Most commenters agree that cellular service does not present a competitive challenge to local exchange service at this time. Expansion of the service may occur in the future, depending on technological and cost changes.

c. Cable Television

Another source of potential competition in the local exchange market is cable television (CATV, or "Community Antenna Television") systems. There are a number of technological and economic reasons why telephone and television systems may ultimately be provided using the same facilities. Although experiments on interactive cable communications have been conducted, current technological and regulatory impediments make cable TV an unlikely competitor for the provision of basic local telephone service.

In addition, for a cable company to offer local exchange telephone service, it would be required to obtain a certificate of convenience and necessity from the Commission to serve the area. To date, no such applications have been made in Texas. There are also FCC restrictions on the telephone utilities' cross-ownership of television distribution systems within their service areas. However, the FCC is currently considering amendment of its rules to allow telephone company cross-ownership of CATV systems, although federal law and the MFJ continue to prohibit such cross-ownership.

There is no pending activity which would allow CATV operators to provide basic local telephone service. As a result, no competition exists from CATV providers for this LEC service.

d. Satellite Networks

Across the nation, LECs have been concerned that large business will set up satellite networks, thereby enabling them to avoid using local exchange telephone service. The VSAT (Very Small Aperture Terminal) satellite has been cited by LECs as cost-effective technology attractive to such customers as auto dealerships, brokerage firms, or hotels. This type of network consists of a central hub station, remote earth stations, and a satellite space station. However, VSAT also has a number of disadvantages. For instance, VSAT networks may be vulnerable to outages; there is a large capital investment involved; and installation usually involves obtaining approvals from local governments and building owners. Also, a SWB study suggests that VSAT technology is not economically justified for access service less than 500 miles in length per circuit.

The LECs in Texas expressed some concern about the threat of competition from satellite stations in general, but did not quantify any possible loss of business revenue from satellite networks. Satellite networks do not appear to offer competition in the near future for basic local exchange service. However, they may pose a competitive threat to the LEC private line and access services in the future.

e. Competition From Other LECs

One area of concern expressed by GTESW, the second largest LEC in Texas, was a recent FCC decision to allow a large business customer in its territory to establish a private microwave link to another LEC's service area, and obtain dial tone and switched services from that LEC. GTESW expects other large business customers within the technological reach of another LEC to make a similar substitution if they are thereby able to significantly lower their cost of telephone service. The FCC's decision is currently before the Federal Court of Appeals.

If the FCC's pre-emptive decision is upheld, this will result in significant competitive pressures on local exchange services. Presently protected by PUC-ordered local service boundaries, LECs could very well be faced with competition for high-revenue business customers by other nearby LECs. While this "poaching" does not appear to be growing--possibly due to the pending court appeal--the competitive implication of the FCC decision is significant.

3. Access Service

A local exchange carrier offers access service to interexchange carriers wishing to make connections to the local exchange network. There are two major categories of access service offered by the LECs: switched access and special access. Switched access service allows connection of the IXCs and the local exchange switched network for the origination and termination of calls. Special access service consists of point-to-point dedicated circuits that are leased to connect the customer's premises with an IXC.

a. Switched Access

For normal residential and business switched access usage, each LEC charges an IXC time-sensitive rates to connect the subscriber to an incoming or outgoing interexchange call that uses the LEC's public switched network. When business customers generate a large volume of long-distance usage, however, a business decision can be made to establish a direct connection between the user's

premises and the IXC's switching equipment, circumventing the local switched network. This practice is known as "bypass."

There are two predominant types of bypass. In the first type, a customer may choose to connect directly to the IXC switch by leasing dedicated private line circuits from the LEC. This form of bypass is known as "service" bypass. Alternatively, a customer may decide to construct dedicated circuits (generally via microwave systems) between its business premises and the IXC switch, thereby circumventing all of the LEC's network facilities. This form of bypass is known as "facility" bypass.

A customer may make a choice to bypass the LEC services for a number of reasons, including comparative costs or special service needs such as security, control, quality, flexibility, reliability, or expandability. When a decision is made to bypass the local network even though telephone company services are priced at cost, it is defined as "economic" bypass. If LEC access service prices depart from reasonable costs because of inappropriate cost allocations between services, and a customer chooses to leave the local network as a result, that is known as "uneconomic" bypass.

In the process of establishing interstate access charges in 1984, the FCC recognized the potential for uneconomic bypass if switched access rates were set too high. The FCC's solution has been to shift revenue recovery from usage-sensitive access charges to the Subscriber Line Charge ("SLC") assessed to end users. The interstate SLC is currently set at $3.20 per month for residential customers, and is scheduled to increase to $3.50 in April of 1989. Because of the SLC, interstate switched access rates have been lowered to a level which should deter uneconomic bypass.

While the Texas PUC has opposed the FCC's imposition of the interstate SLC on subscribers, the PUC has recognized that there are significant access charge pricing concerns in this state. Intrastate switched access rates in Texas remain among the highest in the nation. The PUC's Access Charge Task Force is expected to include this issue among the ones it will analyze in 1989.

LECs also describe a third type of bypass which occurs when an end user constructs a private transmission system to handle its own internal communication needs. These systems are not necessarily a substitute for LEC access services, but may replace a variety of LEC services. Studies on bypass often include information on such private systems and describe them as "competition" to LECs since they represent either a loss or a foregone increase in the LEC's revenues. (Additionally, these end user networks may have excess capacity to sell, although there is little evidence of whether or to what degree that occurs.)

However, even a May 1988 study submitted by SWB admits that the end user network is not competition to the LEC in the classic sense. This study indicated that cost of LEC circuits was the least significant factor in a customer's decision to implement a private transmission system. The major factors related to reliability, service and quality. As long as this is the case, it would appear that this type of network is not something that should be included in this analysis of competition.

Facility bypass and service bypass both result in reduced revenue for the LEC. In reports to the FCC regarding the impact of bypass, Southwestern Bell has estimated that the revenue loss due to facility bypass exceeds $129 million annually in Texas, while the loss due to service bypass exceeds $94 million annually. The SWB (and other LEC) reports have been criticized as using flawed and inconsistent methodologies to exaggerate the losses due to bypass.

At least a portion of bypass does represent a form of competition to the LEC provision of switched access services. Some of the bypass--facilities bypass--may exist as real competition from outside sources, while another segment of bypass--service bypass--is merely a migration between LEC services. The reasons for customers choosing to bypass, as well as the quantification of the effects of bypass, remain embroiled in controversy.

b. Special Access

There are several forms of competition for the LEC's special access, or dedicated circuits generally connecting a customer's premises to an IXC. Most competition exists in the more densely populated areas operated by the largest LECs. Possible competitors described by LECs which would most likely represent special access competition are satellite networks, other privately owned networks, and interexchange carriers.

As in the case of facilities bypass, interexchange carriers may provide competitive special access service. Southwestern Bell estimates that 80 to 90% of the activity on the part of carriers providing intraLATA digital transmission facilities in Texas involves provision of access circuits to connect customers to interexchange carriers.

There are limited examples of other companies that could be considered competitors in the intraLATA special access market. One such example would be the "Teleport" type network such as the ones in New York, Chicago and Philadelphia. In these networks, buildings are connected by an independently-owned private line network to the interexchange carrier systems.

4. IntraLATA Toll

As discussed earlier in this report, divestiture changed the way in which long distance calls are handled, depending on whether the call is made to a location within the same calling area (the LATA, local access and transport area), or outside the LATA. (See Exhibit II-A for a map of Texas LATAs.)

When a customer dials a 1 + call to a destination in another LATA (an "interLATA" call), it is completed by that customer's designated long distance company. However, when that customer makes a long distance intraLATA call--for instance, Austin to Dripping Springs--a 1 + call "defaults" to the local exchange carrier. In equal access areas, customers can have an intraLATA call completed by their IXC rather than their LEC by accessing the IXC's network through a special access code.

In non-equal access areas an OCC can provide intraLATA service along with interLATA long distance for MTS, WATS and 800 calls. Customers must dial up to 24 extra digits to complete a call using these IXCs, however. Because of the type of access AT&T uses, it handles only limited amounts of intraLATA traffic.

During Docket No. 7790, Commission staff estimated that intraLATA traffic handled by IXCs other than AT&T may account for between 15 and 20% of their total intrastate traffic. Certain IXCs indicated that the figure for certain locations may be as high as 35%. These figures relate only to IXC traffic, and should not be interpreted as the IXCs' share of the Texas intraLATA market, which would also include LEC intraLATA traffic. A comprehensive study of the intraLATA market has not yet been performed by Commission staff. Such a study would also include an assessment of the

rates for intraLATA toll. SWB has calculated that LEC rates, which are set by the Commission, may be anywhere from 40 to 100 percent higher than IXC rates.

As in other services, however, changes in the "buying habits" of large volume customers are often signals of markets that are experiencing competition. SWB cites as evidence of IXC competition for intraLATA WATS and 800 customers the following reduction in number of installed access lines:

Period	WATS	800 Service
9/86	5,721	19,139
9/87	5,188	19,608
9/88	3,344	14,484

Although Commission staff has no evidence to suggest that competition for 1+ intraLATA calling is as extensive as competition in the interLATA market, competition does exist, and the LECs have expressed serious concern about the amount.

5. Non-Basic Telephone Services

This category includes all the regulated LEC telephone services other than basic telephone service described above. It is in this category that competition in the true sense of the word--but in varying degrees--appears to be occurring.

a. Private Line Service

Larger LECs feel competition in the local and intraLATA private line service market more keenly than do medium or smaller LECs. Private line service is distinguished from special access through its ultimate usage by the customer: private line circuits originate and terminate wholly within a LATA, while special access circuits are connected to interLATA facilities. Possible competitors described by LECs for private line service include cable television, privately owned networks, and shared tenant service providers.

Cable television networks currently provide a limited amount of competition for local private line data services, and in past years, cable providers have expressed an interest in expanding this service. Recently, however, cable industry representatives indicated that this interest may have cooled. In large part, the technology provided by cable networks for data transmission is coaxial cable. While it may provide a satisfactory service, it is not on the same level as fiber optic cable in terms of capacity or clarity.

There are limited examples of private network service arrangements that could be considered competition in the local and intraLATA private line market. In the "Teleport" networks mentioned previously, buildings may be connected by a dedicated private line network for point to point communications within city limits. Although these networks are used primarily to connect end users with IXCs, they can also be used by businesses such as banks or travel-related companies that have extensive communications with nearby peripheral offices. A Texas company, Network Communications, Inc., has proposed such a network for Houston, but has not yet begun operations.

Shared tenant service arrangements may provide voice, data, and video connections within the STS premises that eliminate the need for LEC-provided private line service.

It is difficult to assess the scope of competition in the local and intraLATA private line market since much of the available information applies to the question of special access or bypass. There does appear to be at least a limited degree of competition from cable TV providers and the potential for additional entrants into private line as a niche market.

b. Central Office-based PBX-type Services

Because the PBX of today can function much like a telephone company central office, it can provide many of the same or similar service functions as those provided by the central office-based PBX-type services of the local telephone company. Technological advancements have enabled the PBX providers to both provide an array of options (e.g., call cueing, message waiting, conferencing, call forwarding, call pickup, etc.) and lower prices associated with PBX equipment. In addition, an array of widely used PBX-type features can now be packaged in much smaller units. These advancements, lower prices and smaller packages have now made PBX-type arrangements more affordable and attractive to not only large and medium-size businesses, but smaller businesses as well. This technological boom and the lower prices of the equipment have created literally hundreds of customer premises equipment vendors and suppliers in the state.

The central office-based PBX-type services of the telephone company, also known as Centrex or Plexar, experience competition from these PBX and key system providers, which are unregulated. SWB estimates that its Centrex and Plexar services have only 12.3 percent of the market, but the Commission has not verified this data since much of it relates to unregulated entities. In Section 23.27 of the Commission's Substantive Rules, the Commission granted rate-setting flexibility for services subject to significant competition. As a pricing tool to be more competitive in this market, the LEC may apply to the Commission for approval of customer specific contracts for central office-based PBX-type services.

There is clearly competition in the market for these central office-based PBX-type services.

c. Pay Telephone Service

The deregulation of pay telephone service, which allowed for the private ownership of pay telephones, has resulted in the proliferation of an array of private pay telephone vendors and service providers in Texas. (These privately-owned pay telephones are often referred to as "customer owned coin operated telephones" or "COCOTs.")

The reliability and quality of these pay telephones has increased significantly over the past few years, and the prices of these phones have come down dramatically, making them appear to be an attractive investment for many businesses and location owners. Lucrative commissions, reasonable maintenance contracts, lower prices and term-type payment plans have made these private payphones an extremely competitive alternative to the payphones provided by local exchange telephone companies.

SWB provided the following statistical data on the number of private pay telephone stations located within its service area:

Date	SWB Public Pay Telephone Stations	Private Pay Telephone Stations
June 1985	97,611	580
June 1986	96,078	4,961
June 1987	92,996	8,281
June 1988	86,677	13,190
September 1988	86,285	14,214

This area was cited most often as an area of significant competition in LEC services. Four of the five largest LECs expressed concern about competition for pay telephone service revenues, and one estimated that it is losing $3 million per year as a result of competition. Alternative operator service (AOS) providers were also cited by LECs as competitors in this area, since they provide coinless telephone service. Also, by offering commissions on long distance service to the private pay phone vendors, AOS providers may help stimulate demand for private pay phones.

Although this service market is competitive, safeguards are in place to ensure that the LEC providing an access line to a COCOT recovers its cost of the service.

d. Billing and Collection Services

The FCC deregulated interstate billing and collection services. Several LECs in Texas have sought intrastate deregulation to meet competition for this service. Section 18(e)(3)(B) of PURA, which authorizes customer specific contracts, also considers billing and collection service to be subject to significant competition. Rule 23.27 would give the LECs the flexibility to set rates and to provide services necessary to compete for billing and collection customers.

e. Mobile Telephone Services

Most LECs provide mobile telephone service through a system known as IMTS, or Improved Mobile Telephone Service. Using the radio technology of the 1960s, this service is widely used throughout Texas, including many rural areas. While it utilizes less advanced technology and offers fewer features than its 1980s "cousin," cellular service, it nonetheless remains a viable offering.

In most areas LEC-provided IMTS service has a substantial amount of competition from either cellular systems or from independent, non-regulated mobile telephone providers. Based on information provided by SWB, there are no regions of Texas where this service is not competitive. SWB's analysis did not address the availability of channels in competitive mobile systems. However, mobile telephone appears to be one of the most highly competitive services offered by LECs. In some cases, an LEC that provides both traditional IMTS service and cellular service (through an unregulated subsidiary) in the same area may be competing with itself for mobile telephone business.

f. Enhanced Services

In its Computer II decision, the FCC prohibited the LECs from providing "enhanced" services and restricted them to the provision of "basic" services. Simply speaking, a service is "enhanced" if information must be processed and the subscriber interacts with the information. "Basic" services are limited to the provision of transmission capacity for the movement of information. However, data processing, computer memory or storage and switching techniques could be components of a basic service if they were used solely to facilitate the movement of information.

In recent years the FCC has recognized this definitional structure as an area of dispute because some services require that the processing, switching and transmission elements all be present in order for the service to be viable and economical. In June of 1986, the FCC released its Report and Order under Docket 86-252, the Computer III Inquiry. That docket attempted to address the elimination of structural separations for enhanced services as provided by LECs.

Since the Computer II decision, LECs have petitioned for and received permission to provide certain services (e.g. protocol conversion) that had previously been restricted. Also, a recent FCC decision allows LECs to provide voice messaging service, which will be viewed as a competitive alternative to telephone answering services.

As electronic switching technology and fiber optic cable become more prevalent throughout the telecommunications network, including the local loop linking each user to the system, some very sophisticated opportunities exist for enhanced use of the ubiquitous telephone network.

The nature of these enhanced services, combined with the LECs' strategic position, results in two important consequences related to universal service. The first is the need to decide which services are to be provided universally and how these services are to be regulated. The second is to determine how enhanced services affect the cost of constructing and operating the LEC networks. It may well prove that the addition of enhanced services can lower very significantly the cost of providing basic service, thereby furthering the goal of universal service.

Enhanced services is an evolving area and it appears that there is the potential for competition in the future. One question for federal regulators is whether enhanced services will be provided as an LEC service or by a deregulated LEC affiliate.

F. IMPACT OF COMPETITION

From a regulatory perspective, the presence of or potential for competition in the local telephone exchange presents a number of complex issues. First, although the services used by large business customers are more competitive, the Commission wants to assure that the benefits of competition are spread as evenly as possible across all users--rural and urban, residential and business--in Texas.

Second, the emergence of competition tends to drive rates for service towards cost. Regulators must analyze and control the regulated utilities' assignment of costs to prevent cross-subsidization, while at the same time retaining safeguards for the preservation of universal service.

A current assessment of the local exchange telecommunications industry in Texas would include the following observations:

Rates for basic local telephone service are low compared to rates in other states, and have not changed significantly in recent years.

LECs continue to upgrade their networks to incorporate technological advancements.

The quality of service has improved, and more services are available.

However, competition is not necessarily the major force propelling the industry as a whole to this position. Indeed, regulatory requirements and technological advancements are likely to have

been more important factors. With that in mind, additional discussion of the impact of competition, in conjunction with other factors, follows.

1. Rural vs. Urban Areas

A description of the extent of rural areas is in order here. Forty-five of the 66 Texas LECs serve fewer than 10 access lines per square mile. Only 12 LECs have total access lines in excess of 10,000. This illustrates that the majority of Texas LECs are smaller companies serving largely rural areas. The equal access information included in the section on long distance shows a similar picture.

When the LECs were asked to describe the effect competition has had on rural areas, several responded that rural customers have benefitted from the existence of competition. First, rural customers, like urban customers, can purchase their own residential or business telephone equipment from a variety of vendors. However, increased choice may also involve increased frustration on the part of the customer. Second, rural customers have become more knowledgeable about choices available in long distance service.

Many competitive services described in this report are not found in rural Texas, in all likelihood because the lower population density in those areas does not make such service offerings economically feasible. This does not mean, however, that rural areas have not received the benefit of technological advancements. In fact, some of the smaller LECs serving rural areas have been able to upgrade their entire networks more quickly than larger LECs have been able to upgrade facilities in the lower density areas they serve.

The Seventieth Texas Legislature recognized that the regulatory process presents a greater relative financial burden for smaller LECs, which generally serve rural areas. SB 444 established a streamlined procedure in Section 43b of PURA for LECs with fewer than 5,000 access lines to implement limited rate changes.

A recent Commission survey shows that the average total revenue recoverable pursuant to this authority is approximately $10,000. However, approximately two-thirds of the eligible companies indicated that the cost of implementing any changes would exceed the amounts recoverable under the percentage caps. Several companies indicated that expanding the maximum percentage increases on certain charges, such as bad check charges, would allow them to recover the actual cost of performing these functions.

2. Residential vs. Business

Since residential users are not as likely to have services other than basic telephone service, competition in regulated local exchange services is not a factor for these customers. Business customers, on the other hand, utilize the services that are experiencing greater competition. Business customers may also find it economically justifiable to build networks of their own, thereby circumventing the public switched network. No quantification is available on the financial effects of competition on residential and business users.

3. Universal Service

PURA sets forth the objective that Texas have adequate and efficient telecommunications service available to all citizens of the state at just, fair, and reasonable rates. The universal affordability of telephone service--"universal service"--has been the policy objective that has guided the regulation of the telephone industry at both the federal and state levels since Congress enacted and President Franklin D. Roosevelt signed the Communications Act of 1934.

Promoting the goal of universal service is especially important in Texas, where a lower percentage of households have telephones in comparison to other states. (See Exhibits III-E, and III-F.) The Commission's rate-setting decisions in recent years have kept local exchange rates as low as possible in part to promote the goal of universal service. As a result, local rates in Texas are low relative to those of many other states.

Recent studies indicate, however, that the most significant deterrent to universal service is the high initial charges associated with obtaining telephone service. To help lower these charges, the Commission approved the Link Up America Program and encouraged all LECs to provide it in their service areas. Other programs such as Tel-Assistance and lifeline service, which provide reductions in the monthly charges for basic telephone service, also assist low income or disadvantaged Texans.

The major concern related to universal service centers around the changing nature of the entire telecommunications industry. The basic infrastructure of the information age is the telephone network. While affordability will continue to remain a key objective, the issue of availability of services merits closer scrutiny. It will no longer be sufficient to simply be able to receive a dial tone. Increasingly, there will be statewide, national, and even international implications from the nature of the services that can be accessed in our state. Therefore, it is appropriate for the Commission to consider redefining the objectives of universal service to properly position Texas for the decades to come.

The emergence of competition, and the resulting pressures on ratemaking, are also vitally important to a system of regulation which has a goal of preserving universal service. Mechanisms can be and must be found to balance the benefits of competition with the pressure for cost-based pricing.

G. RECOMMENDATIONS FOR FUTURE LEGISLATIVE ACTIONS

The Seventieth Texas Legislature was extremely active in telecommunications issues, particularly with respect to competitive services. The Commission has implemented statutory directives through rulemakings and other proceedings and stands ready to carry out additional legislative directives as needed to assure the continued provision of just and reasonable telecommunications services for the State of Texas.

At this time, however, the Commission believes that the current provisions in PURA provide sufficient flexibility to enable the Commission to adequately respond to the level of competition that exists in local telecommunications. Therefore, no recommendations for legislative changes are included in this report.

IV. LIST OF ABBREVIATIONS AND ACRONYMS

AFDC	Aid to Families with Dependant Children
A&M	Texas A&M University
AOS	Alternative Operator Services
AT&T	American Telephone and Telegraph Company
BOC	Bell Operating Company
CATV	Cable Television or Community Antenna Television
CCN	Certificate of Convenience and Necessity
COCOT	Customer-Owned Coin Operated Telephone
CPE	Customer Premise Equipment
CTI	Communications Transmission, Inc.
DHS	Department of Human Services
FCC	Federal Communications Commission
FGA	Feature Group A
FGB	Feature Group B
FGC	Feature Group C
FGD	Feature Group D
FX	Foreign Exchange
GH	Gigahertz
GTE	GTE Corporation
GTESW	GTE Southwest, Inc.
ICB	Individual Contract Basis
ICDR	Interexchange Carrier Data Report
IMTS	Improved Mobile Telephone Service
IXC	Interexchange Telecommunications Carrier
LATA	Local Access and Transport Area
LEC	Local Exchange Carrier
LECDR	Local Exchange Carrier Data Report
MCI	MCI Telecommunications Corporation
MFJ	Modified Final Judgment (Consent Decree of 1984)
MOU	Minutes of Use
MTS	Message Telecommunications Service
MTSO	Mobile Telephone Switching Office

NECA	National Exchange Carrier Association
NPA/NXX	Number Plan Area (i.e. Area Code)/Exchange Prefix These are the first six digits of a ten-digit telephone number.)
OCC	Other Common Carrier
OPC	Office of Public Utility Counsel
PBX	Private Branch Exchange
PLS	Private Line Service
POP	Point of Presence
PUC	Public Utility Commission of Texas
PURA	Public Utility Regulatory Act
Q	Quarter
RBOC	Regional Bell Operating Company
RFI	Request for Information
SB	Senate Bill
SDNS	Software Defined Network Service
SLC	Subscriber Line Charge
SMSA	Standard Metropolitan Statistical Area
SNFA	Shared Network Facilities Agreement
Sprint	US Sprint Communications Company
STS	Shared Tenant Services
SWB	Southwestern Bell Telephone Company
TECA	Texas Exchange Carriers Association
USF	Universal Service Fund
VSAT	Very Small Aperture Terminal
WATS	Wide Area Telecommunications Service

V. EXHIBITS

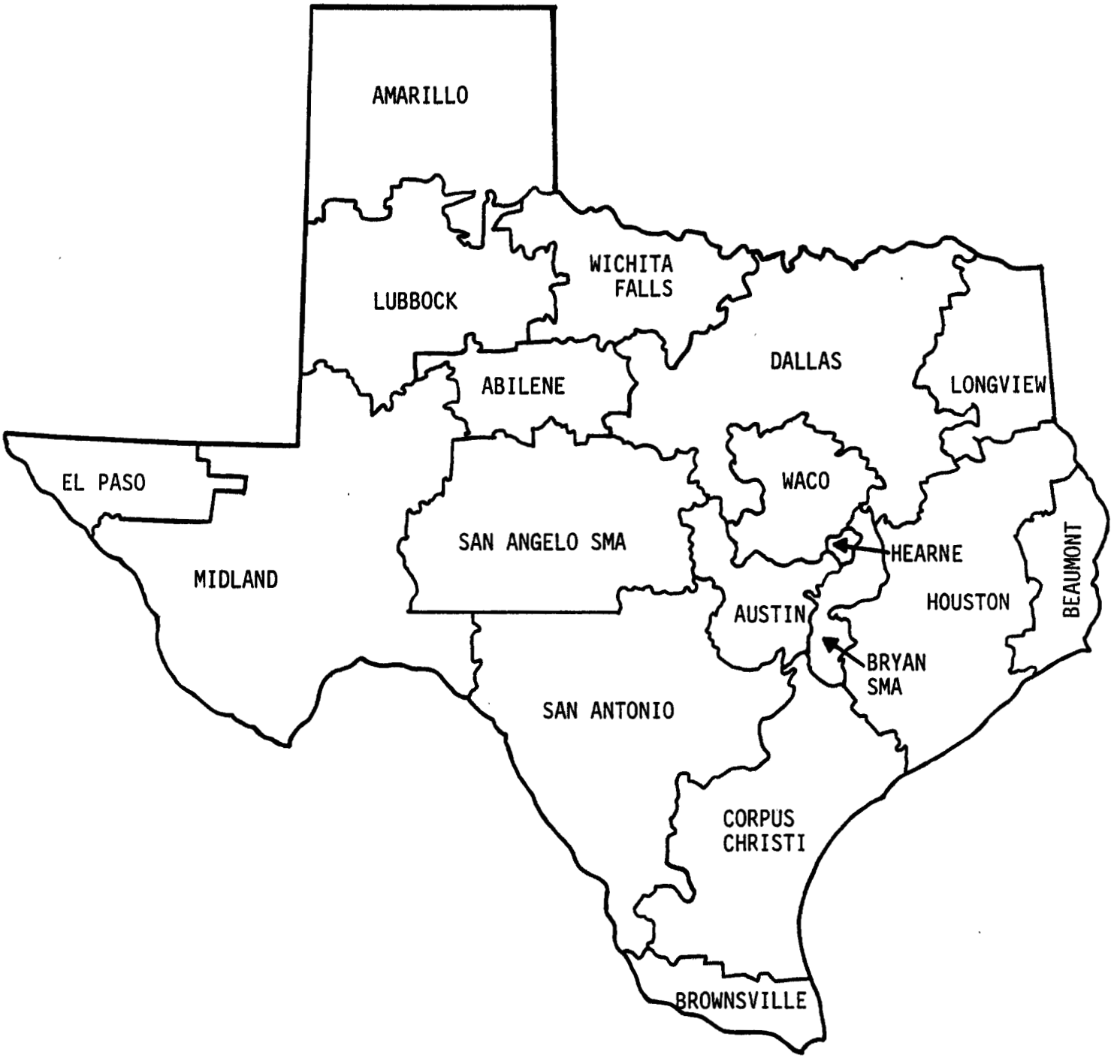
Long Distance Exhibits

II-A	Texas LATAs and SMAs
II-B	Parites Joined in Docket No. 7790
II-C	IXC Market Shares — Revenues
II-D	IXC Market Shares — Customers
II-E	IXC Market Shares — Minutes of Use
II-F	IXC Market Shares — Minutes of Use as Reported by Ten LECs
II-G	December 1988 Update — Aggregated Interexchange Carrier Data
II-H	Texas Interexchange Carrier Minutes of Use
II-I	Number of Other Common Carriers Serving Texas LECs
II-J	Characteristics of Fiber Optic and Microwave
II-K	Equal Access Data
II-L	Advantages and Disadvantages of Feature Groups A-D
II-M	Comparisons of AT&T's Long Distance Rates in the 20 Largest States

Local Exhibits

III-A	Access Lines — Texas Local Exchange Carriers
III-B	Rates — Texas Local Exchange Carriers
III-C	Population Data — Texas Local Exchange Carriers
III-D	Local Exchange Carrier Revenues — Texas Operations
III-E	Percentage of U.S. Households with Telephone by State
III-F	Percentage of Households with a Telephone, National Total and State of Texas

TEXAS LATAs and SMAs



PARTIES JOINED IN DOCKET NO. 7790

The following entities were joined as parties to the market dominance docket. This exhibit is based on Attachment B of the Docket No. 7790 Examiner's Report. Most of these companies also responded to the Interexchange Carrier Data Report (ICDR).

Party	Change in Status
ATC/Satelco, Inc. (ATC)	
AT&T Communications of the Southwest, Inc. (ATTCSW)	
Action Telecom Co.	
Action Telecommunications, Inc.	Stricken from service list; mail returned by post office; later re-added
Advanced Telecommunications Co.	Stricken from service list; same entity as ATC
Aeronautical Radio, Inc.	Dismissed as a party; not an IXC
Allcom	
Allnet Communications Services, Inc. (owned by ALC Communications)	
American Central Corp.	
American Network Exchange	
American Network, Inc. (ANI)	
American Operator Services, Inc. (also known as National Telephone Services, Inc.)	
American Satellite Co. (ASC)	
American Telco, Inc.	
American Telecommunications	Stricken from service list; mail returned by post office; later re-added
American Telenet Systems, Inc.	Dismissed as a party; provides no intrastate service in Texas; later said it did do so and re-added
Ameriphone, Inc.	Stricken from service list; purchased by NTA
Amtel Corp.	Dismissed as a party; not serving in Texas
Argo Communications Corp.	
Automated Long Distance Services, Inc. d/b/a Dash	
Bestline of Austin	
Bramtel, Inc.	Dismissed as a party; not an IXC
Cable & Wireless Management Services, Inc. (C&W)	

Party	Change in Status
Call America	
Cambridge Communications	
Central Corp.	
Claydesta Communications (Claydesta)	
Coastal Telephone Co., Coastal Telephone Network	
Communications Transmission, Inc. (CTI)	Carrier's carrier; objection to joinder originally upheld; on reconsideration, joined as necessary party
Comp-Data Communications, Inc.	
Conroe-Comtel	
Contel ASC	Stricken from service list; now ASC
Corpus Christi Communications, Inc.	
Cypress Telecommunications Corp.	
Data and Telephony Alternatives	
Digicom	
Directline Austin, Inc.	Stricken from service list; same entity as ATC
Econo-Line of the Southwest, Inc.	Stricken from service list; acquired by Dash
Elcotel	
Electra Communications Corp.	Stricken from service list; partly owned by C&W
Electronic Office Centers of America	
Fiberline, Inc.	Dismissed as party; merged with Claydesta
Fiber Long Distance Corp. (bought Call USA Corp.)	
First Fone	
First Fone of Lubbock	
Flat-Rate Communications of Texas, Ltd.	
GTE Mobilnet of Austin, GTE Mobilnet of Houston	Dismissed as party; not an IXC
HCI/Highland Communications, Inc.	
Hasp, Inc.	Stricken from service list; mail returned by post office
Honeywell Sharecom	Stricken from service list; mail returned by post office
Houston Network, Inc.	
Ideal Z-Tel, Inc.	Dismissed as party; no longer doing business
Independent Communication Network, Inc.	Stricken from service list; mail returned by post office
Intelecom Corp.	Stricken from service list; mail returned by post office
Intellicall Operator Services, Inc. (previously Intellicharge, Inc.)	

Party	Change in Status
International Telecharge, Inc.	
Intralink	
LDX Net, Inc. (part of Williams Telecommunications Group)	
Lone Star Telecom	
Long Distance Communications, Inc.	
Long Distance Savers	
MCI Telecommunications Corp.	
Matrix Interconnect Network Corp.	Stricken from service list; mail returned by post office
McDonnel Douglas d/b/a Tymnet	Dismissed as party; not an IXC
Mercury Long Distance	
Metrocel Cellular, Metroprex Telephone Co.	Dismissed as party; not an IXC
MetroLine, Inc.	
Metromedia Long Distance, Inc. (previously Long Distance Service, Inc.)	
Microdevices, Inc.	Dismissed as party; provides no intrastate service in Texas
Mid-America	Stricken from service list; mail returned by post office
NTN Services	
NTS Communications, Inc.	
Nacogdoches Telecommunications, Inc.	
National Data Corp.	Dismissed as a party; not an IXC
National Telecommunications of Austin (NTA)	
National Telephone Exchange, Inc.	Stricken from service list; acquired by Dash
OCC Communications Corp.	
Olympia Telecom, Inc.	Dismissed as a party; no longer operating as an IXC
Operator Assisted Systems, Inc.	Dismissed as a party; not yet operating in Texas
Operator Service Co.	
Pacnet Communications	Stricken from service list; subsidiary of C&W
Phone America	
Plaza S-L, Inc.	
Qwest Microwave, Inc.	
RCS, Inc.	
Realcom Communications Corp.	Dismissed as a party; not an IXC
Residential Comm. of American, Inc.	Stricken from service list; mail returned by post office
STS Telecommunications	
San Marcos Long Distance, Inc.	

Party	Change in Status
Santel Communications	Dismissed as party; no longer in business
Sharecom	
Sharenet	
Southwest Communications	
Star Tel, Inc.	
Star Tel of Lufkin	
Star Tel of San Angelo	
Star Tel of Victoria, Inc.	
Star Tel Transmission Co., Inc.	
Starcom, Inc.	Stricken from service list; mail returned by post office
Starnet International, Inc.	Stricken from service list; subsidiary of ANI
Sun Net, Inc.	
System One Telecommunications	
TLC Lines, Inc.	Dismissed as a party; not an IXC
TTI Midland/Odessa	
Teleconnect Long Distance Services & Systems Co.	
Telemanagement Corp. of America	Dismissed as a party; not an IXC
Telemarketing Communications of Dallas - Ft. Worth	
Telemarketing Communications of El Paso	
Telesphere Network, Inc.	Stricken from service list; mail returned by post office; later re-added with new address
Teletex	Stricken from service list; mail returned by post office
Tel-Net, Inc.	
Texas Communications Network	Stricken from service list; mail returned by post office
Texas National Telecommunications Network	
Texas On Line, Inc. (TOL)	
Texas Telecom, Inc.	Dismissed as a party; not an IXC
Texustel, Inc.	
Thriftline	
Transamerica Telecommunications, Inc. d/b/a TTI Long Distance	
Travis Telecommunications, Inc.	
Tritel, Inc.	Dismissed as party; not an IXC
Tyler Telecom, Inc.	
U.S. Long Distance	
US Sprint Communications Co. (Sprint)	
US Telecom	Stricken from service list; transferred to Sprint
USAA Satellite Communications Co.	Dismissed as party; not an IXC

Party	Change in Status
United States Transmission Systems, Inc. (owned by ITT Corporation)	
University Communications	
Valley WATS, Inc. d/b/a Nickel Fone	
Valu-Line of Amarillo	
Valu-Line of Angleton	
Valu-Line of Beuamont	Dismissed as party; no longer doing business
Valu-Line of Brazosport	
Valu-Line of Brenham d/b/a Transnet	
Valu-Line of El Paso, Inc.	Stricken from service list; mail returned by post office
Valu-Line of Longview, Inc.	
Valu-Line of Wichita Falls, Inc.	
Virtual Telecommunications, Inc.	
Watts Network of Texas, Inc.	Dismissed as a party; inactive subsidiary of TOL
West Texas Long Distance, Inc.	Stricken from service list; acquired by Dash
Westel, Inc.	
Western Union Corp. (previously Western Union Telegraph Co.)	
Wiese, Inc. d/b/a Texas Long Distance	
Wyatt Marketing	
Zero Plus Dialing, Inc.	Stricken from service list; mail returned by post office

IXC MARKET SHARES - 1987 REVENUES

This table was submitted as staff testimony in Docket No. 7790 and was included as Attachment E, page 5 of the Examiner's Report.

AGGREGATED INTEREXCHANGE CARRIER DATA REPORT
IXC GROSS REVENUES ($)
1987 BY QUARTER

	87-4		87-3		87-2		87-1	
	$	PERCENT	$	PERCENT	$	PERCENT	$	PERCENT
MTS-TYPE								
AT&T:	172,956,000	68.1%	175,745,000	64.6%	165,006,000	63.0%	160,044,000	61.6%
Others:	80,887,567	31.9%	96,305,169	35.4%	96,701,170	37.0%	99,557,363	38.4%
Subtotal:	253,843,567	100.0%	272,050,169	100.0%	261,707,170	100.0%	259,601,363	100.0%
# Others:	42		53		51		49	
WATS-TYPE								
AT&T:	9,511,000	33.3%	12,204,000	37.0%	13,894,000	41.9%	13,358,000	43.0%
Others:	19,040,946	66.7%	20,741,792	63.0%	19,248,249	58.1%	17,741,728	57.0%
Subtotal:	28,551,946	100.0%	32,945,792	100.0%	33,142,249	100.0%	31,099,728	100.0%
# Others:	21		20		19		18	
FX/SPECIAL ACCESS								
AT&T:	17,015,000	85.8%	15,878,000	76.2%	16,626,000	78.1%	17,281,000	81.8%
Others:	2,815,822	14.2%	4,970,989	23.8%	4,661,662	21.9%	3,847,148	18.2%
Subtotal:	19,830,822	100.0%	20,848,989	100.0%	21,287,662	100.0%	21,128,148	100.0%
# Others:	8		12		12		11	
800 SERVICE								
AT&T:	30,260,000	96.0%	28,234,000	97.7%	27,607,000	99.2%	26,124,000	99.6%
Others:	1,260,436	4.0%	670,843	2.3%	220,058	0.8%	107,250	0.4%
Subtotal:	31,520,436	100.0%	28,904,843	100.0%	27,827,058	100.0%	26,231,250	100.0%
# Others:	4		5		4		5	
OTHER IX SERVICES								
AT&T:	23,910,000	64.4%	27,314,000	84.0%	26,245,000	81.8	24,449,000	80.7%
Others:	13,192,093	35.6%	5,194,831	16.0%	5,839,627	18.2%	5,829,791	19.3%
Subtotal:	37,102,093	100.0%	32,508,831	100.0%	32,084,627	100.0%	30,278,791	100.0%
# Others:	19		13		10		10	
TOTAL GROSS REVENUES								
AT&T:	253,652,000	68.4%	259,375,000	67.0%	249,378,000	66.3	241,256,000	65.5%
Others:	117,196,864	31.6%	127,883,624	33.0%	126,670,766	33.7%	127,083,280	34.5%
TOTAL:	370,848,864	100.0%	387,258,624	100.0%	376,048,766	100.0%	368,339,280	100.0%

Note: This report includes information current as of June 23, 1988, and may be subject to change if companies submit additional or revised data.

IXC MARKET SHARES - 1986 REVENUES

This table was submitted as staff testimony in Docket No. 7790 and was included as Attachment E, page 6 of the Examiner's Report.

AGGREGATED INTEREXCHANGE CARRIER DATA REPORT
IXC GROSS REVENUES ($)
1986 BY QUARTER

	86-4		86-3		86-2		86-1	
	$	PERCENT	$	PERCENT	$	PERCENT	$	PERCENT
MTS-TYPE								
AT&T:	178,245,000	63.8%	188,153,000	65.8%	185,716,000	72.7%	184,667,000	73.8%
Others:	101,351,979	36.2%	97,737,719	34.2	69,845,308	27.3%	65,581,425	26.2
Subtotal:	279,596,979	100.0%	285,890,719	100.0%	255,561,308	100.0%	250,248,425	100.0%
# Others:	42		40		33		31	
WATS-TYPE								
AT&T:	18,875,000	56.6%	22,666,000	62.7%	23,992,000	74.1%	24,131,000	75.8%
Others:	14,467,185	43.4%	13,472,991	37.3%	8,394,931	25.9%	7,700,037	24.2%
Subtotal:	33,342,185	100.0%	36,138,991	100.0%	32,386,931	100.0%	31,831,037	100.0%
# Others:	14		13		11		10	
FX/SPECIAL ACCESS								
AT&T:	18,457,000	85.9%	23,608,000	89.5%	16,900,000	90.9%	14,993,000	94.7%
Others:	3,040,728	14.1%	2,759,150	10.5%	1,686,583	9.1%	845,147	5.3%
Subtotal:	21,497,728	100.0%	26,367,150	100.0%	18,586,583	100.0%	15,838,147	100.0%
# Others:	10		9		8		7	
800 SERVICE								
AT&T:	30,110,000	99.7%	31,673,000	99.7%	31,827,000	99.7%	30,818,000	99.7%
Others:	105,725	.3%	107,401	.3%	105,761	.3%	102,778	.3%
Subtotal:	30,215,725	100.0%	31,780,401	100.0%	31,932,761	100.0%	30,920,778	100.0%
# Others:	*		*		*		*	
OTHER IX SERVICES								
AT&T:	24,868,000	81.6%	26,000,000	81.9%	27,083,000	83.2%	18,914,000	75.7%
Others:	5,594,675	18.4%	5,734,187	18.1	5,487,611	16.8%	6,071,707	24.3%
Subtotal:	30,462,675	100.0%	31,734,187	100.0%	32,570,611	100.0%	24,985,707	100.0%
# Others:	9		8		7		7	
TOTAL GROSS REVENUES								
AT&T:	270,555,000	68.5%	292,100,000	70.9%	285,518,000	77.0%	273,523,000	77.3%
Others:	124,560,292	31.5	119,811,448	29.1%	85,520,194	23.0%	80,301,094	22.7%
TOTAL:	395,115,292	100.0%	411,911,448	100.0%	371,038,194	100.0%	353,824,094	100.0%

Note: This report includes information current as of June 23, 1988, and may be subject to change if companies submit additional or revised data.

IXC MARKET SHARES - CUSTOMERS AS OF 9/30/87

This table was submitted as staff testimony in Docket No. 7790 and was included as Attachment E, page 1 of the Examiner's Report. The information is based on IXC responses received as of June 23, 1988. The same IXCs were asked to provide the number of customers as of 12/31/87; however, not as many companies submitted responses for that time period.

An asterisk (*) has been used instead of the actual number to maintain confidentiality when three or fewer carriers reported.

AGGREGATED INTEREXCHANGE CARRIER DATA REPORT

IXC NUMBER OF CUSTOMERS
(As of 9/30/87)

	MTS-TYPE	WATS-TYPE	FX/SPECIAL ACCESS	800 SERVICE	OTHERS
BUSINESS					
AT & T :	337,160	3,923	2,943	11,134	0
Others :	375,701	9,758	3,018	1,188	11,943
Subtotal :	712,861	13,681	5,961	12,322	11,943
Number of Others :	57	31	13	7	12
RESIDENTIAL					
AT & T :	5,632,019	0	0	0	0
Others :	1,176,872	3	392	0	19,298
Subtotal :	6,808,891	3	392	0	19,298
Number of Others :	56	*	*	*	6
BUSINESS & RESIDENTIAL					
AT & T :	5,969,179	3,923	2,943	11,134	0
Others :	1,552,573	9,761	3,410	1,188	31,241
TOTAL :	7,521,752	13,684	6,353	12,322	31,241

IXC MARKET SHARES - CUSTOMERS AS OF 12/31/87

This table was submitted as staff testimony in Docket No. 7790 and was included as Attachment E, page 1 of the Examiner's Report. The information is based on IXC responses received as of June 23, 1988. Fewer IXCs responded in this time period. Of the ones that did, more reported having customers of "Other" services, which consists of travel card service, operator service, and any other service not mentioned elsewhere.

An asterisk (*) has been used instead of the actual number to maintain confidentiality when three or fewer carriers reported.

AGGREGATED INTEREXCHANGE CARRIER DATA REPORT

IXC NUMBER OF CUSTOMERS
(As of 12/31/87)

	MTS-TYPE	WATS-TYPE	FX/SPECIAL ACCESS	800 SERVICE	OTHERS
BUSINESS					
AT & T :	318,218	2,410	3,027	13,141	0
Others :	391,053	9,887	3,498	1,883	164,161
Subtotal :	709,271	12,297	6,525	15,024	164,161
Number of Others :	41	23	8	5	22
RESIDENTIAL					
AT & T :	5,674,435	0	0	0	0
Others :	1,135,643	3	1,227	1	404,700
Subtotal :	6,810,078	3	1,227	1	404,700
Number of Others :	41	*	*	*	15
BUSINESS & RESIDENTIAL					
AT & T :	5,992,653	2,410	3,027	13,141	0
Others :	1,526,696	9,890	4,725	1,884	568,861
TOTAL :	7,519,349	12,300	7,752	15,025	568,861

IXC MARKET SHARES - 1987 MINUTES OF USE

This table was submitted as staff testimony in Docket No. 7790 and was included as Attachment E, page 3 of the Examiner's Report. The information is based on IXC responses received as of June 23, 1988.

An asterisk (*) has been used instead of the actual number to maintain confidentiality when three or fewer carriers reported.

AGGREGATED INTEREXCHANGE CARRIER DATA REPORT
IXC ORIGINATING MINUTES OF USE (000's)
1987 BY QUARTER

	87-4		87-3		87-2		87-1	
	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT
FGA								
AT&T:	5,374	9.0%	7,858	10.9%	11,596	14.5%	14,760	14.9%
Others:	54,539	91.0%	64,231	89.1%	68,121	85.5%	84,538	85.1%
Subtotal:	59,913	100.0%	72,089	100.0%	79,717	100.0%	99,298	100.0%
Number of Others:	22		30		30		29	
FGB								
AT&T:	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Others:	50,809	100.0%	60,569	100.0%	49,146	100.0%	46,436	100.0%
Subtotal:	50,809	100.0%	60,569	100.0%	49,146	100.0%	46,436	100.0%
Number of Others:	24		31		27		25	
FGC								
AT&T:	221,093	100.0%	241,083	100.0%	251,818	100.0%	237,703	100.0%
Others:	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Subtotal:	221,093	100.0%	241,083	100.0%	251,818	100.0%	237,703	100.0%
Number of Others:	*		*		*		*	
FGD								
AT&T:	589,174	69.2%	592,332	69.3%	581,075	76.7%	536,265	76.4%
Others:	261,741	30.8%	262,954	30.7%	176,391	23.3%	165,903	23.6%
Subtotal:	850,915	100.0%	855,286	100.0%	757,466	100.0%	702,168	100.0%
Number of Others:	32		42		38		34	
TOTAL MINUTES								
AT&T:	815,641	69.0%	841,273	68.5%	844,489	74.2%	788,728	72.7%
Others:	367,089	31.0%	387,754	31.5%	293,658	25.8%	296,877	27.3%
TOTAL:	1,182,730	100.0%	1,229,027	100.0%	1,138,147	100.0%	1,085,605	100.0%

IXC MARKET SHARES - 1986 MINUTES OF USE

This table was submitted as staff testimony in Docket No. 7790 and was included as Attachment E, page 4 of the Examiner's Report. The information is based on IXC responses received as of June 23, 1988.

An asterisk (*) has been used instead of the actual number to maintain confidentiality when three or fewer carriers reported.

AGGREGATED INTEREXCHANGE CARRIER DATA REPORT
IXC ORIGINATING MINUTES OF USE (000's)
1986 BY QUARTER

	86-4		86-3		86-2		86-1	
	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT
FGA								
AT&T:	12,705	9.8%	22,232	14.0%	24,712	13.7%	28,010	14.6%
Others:	116,561	90.2%	136,232	86.0%	155,622	86.3%	164,137	85.4%
Subtotal:	129,266	100.0%	158,464	100.0%	180,334	100.0%	192,147	100.0%
Number of Others:	25		23		19		18	
FGB								
AT&T:	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Others:	41,282	100.0%	30,518	100.0%	20,715	100.0%	18,320	100.0%
Subtotal:	41,282	100.0%	30,518	100.0%	20,715	100.0%	18,320	100.0%
Number of Others:	22		18		15		14	
FGC								
AT&T:	286,441	100.0%	331,977	100.0%	378,926	100.0%	381,149	100.0%
Others:	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Subtotal:	286,441	100.0%	331,977	100.0%	378,926	100.0%	381,149	100.0%
Number of Others:	*		*		*		*	
FGD								
AT&T:	514,202	76.1%	493,274	79.0%	455,368	81.2%	436,295	83.6%
Others:	161,248	23.9%	131,489	21.0%	105,526	18.8%	85,748	16.4%
Subtotal:	675,450	100.0%	624,763	100.0%	560,894	100.0%	522,043	100.0%
Number of Others:	29		24		20		17	
TOTAL MINUTES								
AT&T:	813,348	71.8%	847,483	74.0%	859,006	75.3%	845,454	75.9%
Others:	319,091	28.2%	298,239	26.0%	281,863	24.7%	268,205	24.1%
TOTAL:	1,132,439	100.0%	1,145,722	100.0%	1,140,869	100.0%	1,113,659	100.0%

IXC MARKET SHARES - MINUTES OF USE

As Reported by Ten LECs

This table was submitted as staff testimony in Docket No. 7790 and was included as Attachment E, page 2 of the Examiner's Report. The information is based on responses received as of May 30, 1988 from the ten largest investor-owned local exchange carriers in Texas.

An asterisk (*) has been used instead of the actual number to maintain confidentiality when three or fewer carriers reported.

AGGREGATED LOCAL EXCHANGE CARRIER DATA REPORT
IXC ORIGINATING MINUTES OF USE (000's)
BY FEATURE GROUP BY QUARTER

	87-4		87-3		87-2		87-1		86-1	
	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT
FGA										
AT&T:	720	1.6%	2,353	4.1%	3,942	5.7%	4,352	5.3%	13,855	9.1%
Others:	43,682	98.4%	55,032	95.9%	64,870	94.3%	78,126	94.7%	137,956	90.9%
Subtotal:	44,402	100.0%	57,385	100.0%	68,812	100.0%	82,478	100.0%	151,811	100.0%
Number of Others:	57		55		58		59		68	
FGB										
AT&T:	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Others:	61,953	100.0%	71,760	100.0%	71,204	100.0%	66,865	100.0%	25,654	100.0%
Subtotal:	61,953	100.0%	71,760	100.0%	71,204	100.0%	66,865	100.0%	25,654	100.0%
Number of Others:	58		57		55		53		42	
FGC										
AT&T:	179,564	100.0%	196,324	100.0%	221,533	100.0%	219,016	100.0%	408,098	100.0%
Others:	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Subtotal:	179,564	100.0%	196,324	100.0%	221,533	100.0%	219,016	100.0%	408,098	100.0%
Number of Others:	*		*		*		*		*	
FGD										
AT&T:	576,216	67.7%	604,813	69.0%	544,725	68.5%	490,049	69.1%	362,998	78.8%
Others:	275,404	32.3%	271,875	31.0%	250,199	31.5%	219,520	30.9%	97,492	21.2%
Subtotal:	851,620	100.0%	876,688	100.0%	794,924	100.0%	709,569	100.0%	460,490	100.0%
Number of Others:	69		62		63		57		42	
TOTAL MINUTES										
AT&T:	756,500	66.5%	803,490	66.8%	770,200	66.6%	713,417	66.2%	784,951	75.0%
Others:	381,039	33.5%	398,667	33.2%	386,273	33.4%	364,511	33.8%	261,102	25.0%
TOTAL:	1,137,539	100.0%	1,202,157	100.0%	1,156,473	100.0%	1,077,928	100.0%	1,046,053	100.0%

DECEMBER 1988 UPDATE
AGGREGATED INTEREXCHANGE CARRIER DATA REPORT
IXC GROSS REVENUES ($)

	88-3		88-2		88-1		87-4	
	$	PERCENT	$	PERCENT	$	PERCENT	$	PERCENT
MTS-TYPE								
AT&T:	175,896,000	65.8%	170,881,000	66.1%	166,014,000	65.8%	172,956,000	68.0%
Others:	91,380,347	34.2%	87,563,015	33.9%	86,398,794	34.2%	81,313,567	32.0%
Subtotal:	267,276,347	100.0%	258,444,015	100.0%	252,412,794	100.0%	254,269,567	100.0%
# Others:	52		51		51		44	
WATS-TYPE								
AT&T:	6,989,000	21.1%	7,845,000	24.2%	8,159,000	26.1%	9,511,000	33.2%
Others:	26,190,243	78.9%	24,506,872	75.8%	23,159,308	73.9%	19,102,654	66.8%
Subtotal:	33,179,243	100.0%	32,351,872	100.0%	31,318,308	100.0%	28,613,654	100.0%
# Others:	24		24		24		23	
FX/SPECIAL ACCESS								
AT&T:	17,820,000	83.1%	16,036,000	81.8%	16,603,000	83.2%	17,015,000	85.8%
Others:	3,629,988	16.9%	3,579,242	18.2%	3,356,184	16.8%	2,815,822	14.2%
Subtotal:	21,449,988	100.0%	19,615,242	100.0%	19,959,184	100.0%	19,830,822	100.0%
# Others:	12		12		12		8	
800 SERVICE								
AT&T:	33,277,000	85.3%	32,672,000	89.3%	32,060,000	93.0%	30,260,000	96.0%
Others:	5,714,448	14.7%	3,915,949	10.7%	2,409,788	7.0%	1,260,436	4.0%
Subtotal:	38,991,448	100.0%	36,587,949	100.0%	34,469,788	100.0%	31,520,436	100.0%
# Others:	19		18		15		4	
CREDIT/TRAVEL CARD								
AT&T:	12,172,000	63.7%	11,486,000	64.7%	11,600,000	66.5%		
Others:	6,933,794	36.3%	6,275,501	35.3%	5,844,561	33.5%		(See note)
Subtotal:	19,105,794	100.0%	17,761,501	100.0%	17,444,561	100.0%		
# Others:	22		22		22			
OPERATOR SERVICES								
AT&T:	11,304,000	76.9%	12,056,000	81.1%	12,176,000	86.6%		
Others:	3,390,894	23.1%	2,809,210	18.9%	1,885,058	13.4%		(See note)
Subtotal:	14,694,894	100.0%	14,865,210	100.0%	14,061,058	100.0%		
# Others:	7		7		7			
OTHER IX SERVICES								
AT&T:	1,052,000	20.9%	837,000	16.8%	790,000	13.5%	23,910,000	64.4%
Others:	3,976,019	79.1%	4,146,319	83.2%	5,083,366	86.5%	13,192,093	35.6%
Subtotal:	5,028,019	100.0%	4,983,319	100.0%	5,873,366	100.0%	37,102,093	100.0%
# Others:	7		6		6		19	
TOTAL GROSS REVENUES								
AT&T:	258,510,000	64.7%	251,813,000	65.5%	247,402,000	65.9%	253,652,000	68.3%
Others:	141,215,733	35.3%	132,796,108	34.5%	128,137,059	34.1%	117,692,564	31.7%
TOTAL:	399,725,733	100.0%	384,609,108	100.0%	375,539,059	100.0%	371,344,564	100.0%

Note: This report includes information current as of January 11, 1989, and may be subject to change if companies submit additional or revised data. The 1988 data report questionnaire identified "Credit/Travel Card" and "Operator Services" as separate categories, whereas earlier data reports combined these categories in "other."

This information was not submitted into evidence in Docket No. 7790 and will not be considered by the Commissioners in their rulings on that docket.

DECEMBER 1988 UPDATE

AGGREGATED INTEREXCHANGE CARRIER DATA REPORT

IXC NUMBER OF CUSTOMERS
(As of 9/30/88)

	MTS-TYPE	WATS-TYPE	FX/ SPECIAL ACCESS	800 SERVICE	CREDIT/ TRAVEL CARD	OPERATOR SERVICES
BUSINESS						
AT & T :	328,785	1,706	1,329	16,325	0	0
Others :	440,843	14,752	2,241	6,160	180,125	5,584
Subtotal :	769,628	16,458	3,570	22,485	180,125	5,584
Number of Others :	54	24	11	19	27	**
OTHER IXCs						
AT & T :	0	0	0	0	0	0
Others :	7	107	99	0	0	1
Subtotal :	7	107	99	0	0	1
Number of Others :	*	14	6	*	*	*
RESIDENTIAL						
AT & T :	5,691,866	0	0	0	0	0
Others :	1,262,262	2	588	3	557,362	0
Subtotal :	6,954,128	2	588	3	557,362	0
Number of Others :	53	*	*	*	24	*
TOTAL CUSTOMERS						
AT & T :	6,020,651	1,706	1,329	16,325	0	0
Others :	1,703,112	14,861	2,928	6,163	737,487	5,585
TOTAL :	7,723,763	16,567	4,257	22,488	737,487	5,585

Notes:

This report includes information submitted as of January 11, 1989, and may be subject to change if companies submit additional or revised data.

An asterisk(*) has been used instead of the actual number to insure confidentially when three or fewer carriers reported.

This information was not submitted into evidence in Docket No. 7790 and will not be considered by the Commissioners in their rulings on that docket.

DECEMBER 1988 UPDATE

AGGREGATED INTEREXCHANGE CARRIER DATA REPORT

IXC NUMBER OF CUSTOMERS
(As of 12/31/87)

	MTS-TYPE	WATS-TYPE	FX/SPECIAL ACCESS	800 SERVICE	OTHERS
BUSINESS					
AT & T :	318,218	2,410	3,027	13,141	0
Others :	392,845	9,887	3,498	1,883	164,161
Subtotal :	711,063	12,297	6,525	15,024	164,161
Number of Others :	42	23	8	5	22
RESIDENTIAL					
AT & T :	5,674,435	0	0	0	0
Others :	1,136,326	3	1,227	1	404,700
Subtotal :	6,810,761	3	1,227	1	404,700
Number of Others :	42	*	*	*	15
BUSINESS & RESIDENTIAL					
AT & T :	5,992,653	2,410	3,027	13,141	0
Others :	1,529,171	9,890	4,725	1,884	568,861
TOTAL :	7,521,824	12,300	7,752	15,025	568,861

Notes:

This report includes information submitted as of January 9, 1989, and may be subject to change if companies submit additional or revised data.

An asterisk(*) has been used instead of the actual number to insure confidentially when three or fewer carriers reported.

This information was not submitted into evidence in Docket No. 7790 and will not be considered by the Commissioners in their rulings on that docket.

DECEMBER 1988 UPDATE
TEXAS INTEREXCHANGE CARRIERS
IXC ORIGINATING MINUTES OF USE BY FEATURE GROUP (000's)
By Quarter

	88-3		88-2		88-1		87-4	
	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT
FGA								
AT&T:	0	0.0%	0	0.0%	0	0.0%	5,374	8.9%
Others:	36,038	100.0%	34,540	100.0%	39,754	100.0%	54,789	91.1%
Subtotal:	36,038	100.0%	34,540	100.0%	39,754	100.0%	60,163	100.0%
Number of Others:	27		25		26		24	
FGB								
AT&T:	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Others:	66,486	100.0%	62,881	100.0%	57,587	100.0%	51,494	100.0%
Subtotal:	66,486	100.0%	62,881	100.0%	57,587	100.0%	51,494	100.0%
Number of Others:	35		34		34		26	
FGC								
AT&T:	209,406	100.0%	200,803	100.0%	213,453	100.0%	221,093	100.0%
Others:	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Subtotal:	209,406	100.0%	200,803	100.0%	213,453	100.0%	221,093	100.0%
Number of Others:	*		*		*		*	
FGD								
AT&T:	611,990	63.7%	595,864	64.9%	589,275	68.2%	589,174	69.2%
Others:	348,613	36.3%	322,604	35.1%	274,401	31.8%	261,960	30.8%
Subtotal:	960,603	100.0%	918,468	100.0%	863,676	100.0%	851,134	100.0%
Number of Others:	43		42		42		34	
TOTAL MINUTES								
AT&T:	821,396	64.5%	796,667	65.5%	802,728	68.3%	815,641	68.9%
Others:	451,137	35.5%	420,025	34.5%	371,742	31.7%	368,243	31.1%
TOTAL:	1,272,533	100.0%	1,216,692	100.0%	1,174,470	100.0%	1,183,884	100.0%

Notes:

This report includes information submitted as of January 11, 1989, and may be subject to change if companies submit additional or revised data.

An asterisk(*) has been used instead of the actual number to insure confidentially when three or fewer carriers reported.

This information was not submitted into evidence in Docket No. 7790 and will not be considered by the Commissioners in their rulings on that docket.

TEXAS INTEREXCHANGE CARRIER MINUTES OF USE
(In Thousands)

1988 By Quarter

	88-4		88-3		88-2		88-1	
	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT
AT&T:			799,226	63.4%	769,271	66.5%	745,998	66.8%
Others:			461,837	36.6%	386,979	33.5%	370,304	33.2%
TOTAL			1,261,063	100.0%	1,156,250	100.0%	1,116,302	100.0%

1987 By Quarter

	87-4		87-3		87-2		87-1	
	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT
AT&T:	778,298	66.8%	829,362	67.3%	793,906	67.3%	734,616	66.8%
Others:	385,981	33.2%	402,195	32.7%	386,168	32.7%	365,149	33.2%
TOTAL	1,164,279	100.0%	1,231,557	100.0%	1,180,074	100.0%	1,099,765	100.0%

1986 By Quarter

	86-4		86-3		86-2		86-1	
	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT	MOU	PERCENT
AT&T:							806,266	72.9%
Others:							300,169	27.1%
TOTAL							1,106,435	100.0%

Source: Local Exchange Carrier Questionnaire issued by Commission staff to the 66 Texas local exchange carriers.

Note: Chart shows originating minutes of use.

NUMBER OF OTHER COMMON CARRIERS SERVING TEXAS LECs
(As of August 31, 1988)

Company Name	Number of IXCs Other than AT&T	Number of IXCs Other than AT&T Serving Majority of LEC Offices
Southwestern Bell Telephone Company	82	4
General Telephone Company of the Southwest	40	6
Continental Telephone Company of Texas	19	0
Central Telephone Company of Texas	12	0
United Telephone Company of Texas, Inc.	11	0
Fort Bend Telephone Company	10	0
Kerrville Telephone Company, Inc.	9	9
San Marcos Telephone Company	9	9
Lufkin-Conroe Telephone Exchange, Inc.	8	8
XIT Rural Telephone Cooperative, Inc.	7	6
Cap Rock Telephone Company, Inc.	6	6
Livingston Telephone Company	2	2
Five Area Telephone Cooperative, Inc.	1	0
Mustang Telephone Company	1	0
Sugar Land Telephone Company	1	1
Sweeny-Old Ocean Telephone Company	1	0
Alenco Communications, Inc.	0	0
Big Bend Telephone Company of Texas	0	0
Blossom Telephone Company	0	0
Brazoria Telephone Company	0	0
Brazos Telephone Cooperative, Inc.	0	0
Byers-Petrolia Telephone Company, Inc.	0	0
Cameron Telephone Company	0	0
Central Texas Telephone Cooperative, Inc.	0	0
Coleman County Telephone Cooperative, Inc.	0	0
Colorado Valley Telephone Cooperative, Inc.	0	0
Comanche County Telephone Company, Inc.	0	0
Community Telephone Company, Inc.	0	0
Cumby Telephone Cooperative, Inc.	0	0
Dell Telephone Cooperative, Inc.	0	0
Eastex Telephone Cooperative, Inc.	0	0
Electra Telephone Company	0	0
E.N.M.R. Telephone Cooperative, Inc.	0	0
Etex Telephone Cooperative, Inc.	0	0
Ganado Telephone Company, Inc.	0	0
Guadalupe Valley Telephone Cooperative, Inc.	0	0
Hill Country Telephone Cooperative, Inc.	0	0
Industry Telephone Company	0	0
Knippa Telephone Company	0	0
Lake Dallas Telephone Company, Inc.	0	0
Lake Livingston Telephone Company	0	0
La Ward Telephone Exchange, Inc.	0	0
Lipan Telephone Company	0	0
Mid-Plains Rural Telephone Cooperative, Inc.	0	0
Muenster Telephone Corporation of Texas	0	0
ALLTEL Texas, Inc.	0	0
Panhandle Telephone Cooperative, Inc.	0	0
Peeples Telephone Company	0	0
Peoples Telephone Cooperative, Inc.	0	0
Poka-Lambro Rural Telephone Cooperative, Inc.	0	0
Riviera Telephone Company, Inc.	0	0
Southwest Texas Telephone Company	0	0
Romain Telephone Company, Inc.	0	0
Santa Rosa Telephone Cooperative, Inc.	0	0
South Plains Telephone Cooperative, Inc.	0	0
Southwest Arkansas Telephone Cooperative, Inc.	0	0
Tatum Telephone Exchange	0	0
Taylor Telephone Cooperative, Inc.	0	0
Texas-Midland Telephone Company	0	0
Tri-County Telephone Company, Inc.	0	0
Trinity Valley Telephone Company	0	0
Valley Telephone Cooperative, Inc.	0	0
Valley View Telephone Company	0	0
Waterwood Communications, Inc.	0	0
Wes-Tex Telephone Cooperative, Inc.	0	0
West Texas Rural Telephone Cooperative, Inc.	0	0

CHARACTERISTICS OF FIBER OPTIC AND MICROWAVE

Method of Transmission	Signal Quality	Voice Circuit Capacity	Cost	Implementation Time
		Fiber Optic		
Voice circuits impressed on lightwaves transported on strands of glass fiber. Fiber buried or on poles above ground	Best available	Highest available. Up to 384,000 simultaneous voice circuits per 18 fiber pair cable if 2 pair are set aside for maintenance	$50,000 - $100,000/ mile to construct. As little as $.40/ voice circuit mile assuming 1.76 gigabit repeaters used	Fiber deployment slowest part. Attaching new electronics increasing fiber capacity takes weeks or months
		Microwave		
Voice circuits transmitted through air using radio frequency spectrum. Microwave dishes on tall buildings or towers	Repeaters needed each 30 - 40 miles to eliminate signal degradation due to curvature of the earth or weather	Up to 18,000 simultaneous voice circuits using 4 gigahertz (GH). More than double that using 6 GH. Total # voice circuits limited by FCC-authorized frequency spectrum	$10,000 - $35,000/mile or up to $500,000/ microwave hop to construct. $2.00/voice circuit mile fully loaded	At least 6 months to build microwave system

Source: Examiner's Report, Docket No. 7790, Page 55.

EQUAL ACCESS DATA

Texas Local Exchange Carriers

Company Name	Number of End Offices	Number of Equal Access End Offices	Percent Equal Access Offices	Percent Equal Access Lines
Southwestern Bell Telephone Company	562	342	60.9	91.0
Fort Bend Telephone Company	8	4	50.0	79.0
General Telephone Company of the Southwest	317	147	46.4	76.0
Central Telephone Company of Texas	47	16	34.0	79.0
Continental Telephone Company of Texas	181	1	0.6	4.0
United Telephone Company of Texas, Inc.	59	0	0.0	0.0
Eastex Telephone Cooperative, Inc.	21	0	0.0	0.0
Texas-Midland Telephone Company	17	0	0.0	0.0
Valley Telephone Cooperative, Inc.	17	0	0.0	0.0
Lufkin-Conroe Telephone Exchange, Inc.	16	0	0.0	0.0
South Plains Telephone Cooperative, Inc.	16	0	0.0	0.0
Central Texas Telephone Cooperative, Inc.	15	0	0.0	0.0
Hill Country Telephone Cooperative, Inc.	15	0	0.0	0.0
Poka-Lambro Rural Telephone Cooperative, Inc.	15	0	0.0	0.0
Big Bend Telephone Company of Texas	14	0	0.0	0.0
Guadalupe Valley Telephone Cooperative, Inc.	14	0	0.0	0.0
Taylor Telephone Cooperative, Inc.	14	0	0.0	0.0
Cap Rock Telephone Company, Inc.	10	0	0.0	0.0
Santa Rosa Telephone Cooperative, Inc.	10	0	0.0	0.0
Wes-Tex Telephone Cooperative, Inc.	10	0	0.0	0.0
Mid-Plains Rural Telephone Cooperative, Inc.	9	0	0.0	0.0
Peoples Telephone Cooperative, Inc.	9	0	0.0	0.0
West Texas Rural Telephone Cooperative, Inc.	9	0	0.0	0.0
Comanche County Telephone Company, Inc.	8	0	0.0	0.0
Trinity Valley Telephone Company	8	0	0.0	0.0
Etex Telephone Cooperative, Inc.	7	0	0.0	0.0
XIT Rural Telephone Cooperative, Inc.	7	0	0.0	0.0
Coleman County Telephone Cooperative, Inc.	6	0	0.0	0.0
Colorado Valley Telephone Cooperative, Inc.	6	0	0.0	0.0
Community Telephone Company, Inc.	6	0	0.0	0.0
Five Area Telephone Cooperative, Inc.	6	0	0.0	0.0
Southwest Texas Telephone Company	6	0	0.0	0.0
Brazos Telephone Cooperative, Inc.	5	0	0.0	0.0
ALLTEL Texas, Inc.	5	0	0.0	0.0
Peeples Telephone Company	5	0	0.0	0.0
Kerrville Telephone Company, Inc.	4	0	0.0	0.0
Muenster Telephone Corporation of Texas	4	0	0.0	0.0
Sugar Land Telephone Company	4	0	0.0	0.0
Dell Telephone Cooperative, Inc.	3	0	0.0	0.0
Industry Telephone Company	3	0	0.0	0.0
La Ward Telephone Exchange, Inc.	3	0	0.0	0.0
Riviera Telephone Company, Inc.	3	0	0.0	0.0
Alenco Communications, Inc.	2	0	0.0	0.0
Brazoria Telephone Company	2	0	0.0	0.0
Byers-Petrolia Telephone Company, Inc.	2	0	0.0	0.0
Cameron Telephone Company	2	0	0.0	0.0
Lipan Telephone Company	2	0	0.0	0.0

Romain Telephone Company, Inc.	2	0	0.0	0.0
Sweeny-Old Ocean Telephone Company	2	0	0.0	0.0
Valley View Telephone Company	2	0	0.0	0.0
Cumby Telephone Cooperative, Inc.	1	0	0.0	0.0
Electra Telephone Company	1	0	0.0	0.0
Ganado Telephone Company, Inc.	1	0	0.0	0.0
Knippa Telephone Company	1	0	0.0	0.0
Lake Dallas Telephone Company, Inc.	1	0	0.0	0.0
Lake Livingston Telephone Company	1	0	0.0	0.0
Livingston Telephone Company	1	0	0.0	0.0
Mustang Telephone Company	1	0	0.0	0.0
San Marcos Telephone Company	1	0	0.0	0.0
Southwest Arkansas Telephone Cooperative, Inc.	1	0	0.0	0.0
Tatum Telephone Exchange	1	0	0.0	0.0
Tri-County Telephone Company, Inc.	1	0	0.0	0.0
Waterwood Communications, Inc.	1	0	0.0	0.0
Blossom Telephone Company	0	0	0.0	0.0
E.N.M.R. Telephone Cooperative, Inc.	0	0	0.0	0.0
Panhandle Telephone Cooperative, Inc.	0	0	0.0	0.0

Sources: Information pertaining to end offices is as of August 31, 1988 and is based on LEC responses to a commission questionnaire. Information pertaining to percentage of equal access lines is based on findings made by the examiner in Docket No. 7790.

ADVANTAGES AND DISADVANTAGES OF FEATURE GROUPS A - D

	Sound Quality	# Digits Customers Must Dial	Fraud Detection	Cost	Availability
FGA	Poor	Up to 23	Poor	Less expensive	Available only to OCCs; statewide
FGB	Good	Up to 23	Poor	Less expensive	Available only to OCCs; statewide except for areas served off non-access tandem
FGC	Good	10	Good	More expensive	Available only to AT&T; only in non-equal access areas
FGD	Good	10	Good	More expensive	Available to all IXCs; only in equal access areas

Source: Examiner's Report, Docket No. 7790, Pages 70-71.

COMPARISONS OF AT&T'S LONG DISTANCE RATES IN THE 20 LARGEST STATES

Ranked by Size of Decrease Since 1/1/84

Rank	State	Cost of a 5 Min. Call* 12/1/88	3/1/87	1/1/84	$ Change
1	Maryland	1.05	1.51	2.02	-.97
2	Indiana	1.46	2.02	2.22	-.76
3	Tennessee	1.55	1.83	2.31	-.76
4	New York	1.24	1.35	1.98	-.74
5	Michigan	1.54	1.79	2.26	-.72
6	Louisiana	1.89	2.58	2.58	-.69
7	Ohio	1.42	1.59	2.05	-.63
8	California	1.20	1.37	1.80	-.60
9	Florida	1.46	1.79	1.99	-.53
10	North Carolina	1.41	1.86	1.92	-.51
11	Georgia	1.43	1.75	1.92	-.49
12	Illinois	1.13	1.39	1.57	-.44
13	Wisconsin	1.72	2.25	2.10	-.38
14	Texas	1.75	1.86	2.10	-.35
15	Missouri	1.84	1.90	2.14	-.30
16	Washington	1.37	1.80	1.60	-.23
17	Pennsylvania	1.40	1.51	1.55	-.15
18	New Jersey	.97	1.22	1.03	-.06
19	Massachusetts	2.12	1.37	2.11	+.01
20	Virginia	1.73	1.37	1.67	+.06

* Week day rates for calls of 106 miles.

Source: Texas PUC Telephone Division Staff Survey.

Summary:

- Reductions in long distance rates are more likely to be associated with PUC decisions to reduce access charges than with decisions to deregulate or grant flexible regulation to AT&T. The Texas PUC has chosen to keep access charges (and therefore, long distance rates) higher than average in order to keep basic local exchange rates low.

ACCESS LINES - TEXAS LOCAL EXCHANGE CARRIERS

(As Of August 31, 1988)

Company Name	No. of Access Lines
Southwestern Bell Telephone Company	6,252,966
General Telephone Company of the Southwest	1,013,595
Continental Telephone Company of Texas	161,533
Central Telephone Company of Texas	124,021
United Telephone Company of Texas, Inc.	107,126
Lufkin-Conroe Telephone Exchange, Inc.	58,580
Sugar Land Telephone Company	24,238
Eastex Telephone Cooperative, Inc.	20,058
San Marcos Telephone Company	18,715
Fort Bend Telephone Company	16,652
Guadalupe Valley Telephone Cooperative, Inc.	15,038
Kerrville Telephone Company, Inc.	14,131
Texas-Midland Telephone Company	9,855
Etex Telephone Cooperative, Inc.	9,009
Hill Country Telephone Cooperative, Inc.	8,906
Peoples Telephone Cooperative, Inc.	6,725
Taylor Telephone Cooperative, Inc.	5,186
Trinity Valley Telephone Company	5,022
Colorado Valley Telephone Cooperative, Inc.	4,826
Comanche County Telephone Company, Inc.	4,752
Brazoria Telephone Company	4,630
Livingston Telephone Company	4,323
Valley Telephone Cooperative, Inc.	4,222
Lake Dallas Telephone Company, Inc.	4,222
Poka-Lambro Rural Telephone Cooperative, Inc.	3,606
South Plains Telephone Cooperative, Inc.	3,537
Central Texas Telephone Cooperative, Inc.	3,477
ALLTEL Texas, Inc.	3,159
Wes-Tex Telephone Cooperative, Inc.	3,026
Big Bend Telephone Company of Texas	2,684
Sweeny-Old Ocean Telephone Company	2,443
Cap Rock Telephone Company, Inc.	2,369
Southwest Texas Telephone Company	2,364
Mustang Telephone Company	2,266
Mid-Plains Rural Telephone Cooperative, Inc.	2,055
Coleman County Telephone Cooperative, Inc.	1,814
Muenster Telephone Corporation of Texas	1,727
Electra Telephone Company	1,650
West Texas Rural Telephone Cooperative, Inc.	1,650
Santa Rosa Telephone Cooperative, Inc.	1,591
Industry Telephone Company	1,512
Five Area Telephone Cooperative, Inc.	1,507
Community Telephone Company, Inc.	1,446
Ganado Telephone Company, Inc.	1,223
Blossom Telephone Company	1,090
Brazos Telephone Cooperative, Inc.	1,086
Cameron Telephone Company	982
XIT Rural Telephone Cooperative, Inc.	945
Romain Telephone Company, Inc.	942
Lake Livingston Telephone Company	919
Peeples Telephone Company	903
Valley View Telephone Company	884
La Ward Telephone Exchange, Inc.	874
Lipan Telephone Company	829
Tri-County Telephone Company, Inc.	788
Riviera Telephone Company, Inc.	762
Byers-Petrolia Telephone Company, Inc.	747
E.N.M.R. Telephone Cooperative, Inc.	733
Tatum Telephone Exchange	685
Cumby Telephone Cooperative, Inc.	522
Dell Telephone Cooperative, Inc.	423
Southwest Arkansas Telephone Cooperative, Inc.	396
Waterwood Communications, Inc.	366
Alenco Communications, Inc.	224
Knippa Telephone Company	117
Panhandle Telephone Cooperative, Inc.	30

RATES - TEXAS LOCAL EXCHANGE CARRIERS

(As of December 1, 1988)

Telephone Company	One-Party Res. Rate*	One-Party Bus. Rate*
Alenco Communications, Inc.	$ 7.50	$12.50
ALLTEL Texas, Inc.	$ 5.60	$12.00
Big Bend Telephone Company of Texas	$ 7.00-117.00	$ 9.50-117.00
Blossom Telephone Company	$ 7.00	$ 9.00
Brazoria Telephone Company	$10.00-17.00	$18.50-25.00
Brazos Telephone Cooperative, Inc.	$ 6.15	$ 9.65
Byers-Petrolia Telephone Company, Inc.	$ 8.50	$15.00
Cameron Telephone Company	$ 5.00	$11.00
Cap Rock Telephone Company Inc.	$ 9.40-12.15	$15.40-17.90
Central Telephone Company of Texas	$ 7.90-18.20	$19.75-45.00
Central Texas Telephone Cooperative, Inc.	$ 7.90	$11.65
Coleman County Telephone Cooperative, Inc.	$ 6.65	$10.40
Colorado Valley Telephone Cooperative, Inc.	$ 8.40	$14.40
Comanche County Telephone Company, Inc.	$ 8.00	$11.50
Community Telephone Company, Inc.	$ 7.40-8.65	$10.90-12.65
Continental Telephone Company of Texas	$ 8.35-9.55	$19.90-22.80
Cumby Telephone Cooperative, Inc.	$ 6.70	$11.40
Dell Telephone Cooperative, Inc.	$15.40	$21.40
Eastex Telephone Cooperative, Inc.	$ 6.40-7.15	$ 9.90-10.65
Electra Telephone Co.	$ 5.90	$11.90
E.N.M.R. Telephone Cooperative, Inc.	$12.00-13.00	$16.50-17.50
Etex Telephone Cooperative, Inc.	$ 8.10	$14.80
Five Area Telephone Cooperative, Inc.	$16.60-17.10	$32.25-33.25
Fort Bend Telephone Company	$ 8.25-11.00	$16.00-17.00
GTE Southwest, Inc.	$ 8.55-9.25**	$22.15-24.10**
Ganado Telephone Company, Inc.	$ 7.40	$13.40
Guadalupe Valley Telephone Cooperative, Inc.	$ 7.25-7.75	$10.50-11.00
Hill Country Telephone Cooperative, Inc.	$ 6.25-9.50	$ 9.50-15.00
Industry Telephone Company	$ 9.00-9.75	$13.75-15.00
Kerrville Telephone Company, Inc.	$ 7.25-7.40	$16.20-18.10
Knippa Telephone Company	$ 7.20	$ 7.20
Lake Dallas Telephone Company, Inc.	$ 6.90	$14.40
Lake Livingston Telephone Company	$ 7.25	$ 7.25
La Ward Telephone Exchange, Inc.	$ 7.80	$15.65
Lipan Telephone Company	$ 7.70-8.70	$11.75-12.75
Livingston Telephone Company	$ 5.40	$11.40
Lufkin-Conroe Telephone Exchange, Inc.	$ 6.05-8.75	$13.40-15.00
Mid-Plains Rural Telephone Cooperative, Inc.	$13.25-13.75	$25.55-26.55
Muenster Telephone Corp.	$ 7.00-8.00	$14.00-15.25
Mustang Telephone Company	$ 5.90	$11.40
Panhandle Telephone Cooperative, Inc.	$ 7.95	$12.45
Peeples Telephone Company	$ 4.75-7.10	$ 7.25-17.25

Peoples Telephone Cooperative, Inc.	$ 7.95-8.20	$15.90-16.40
Poka-Lambro Rural Telephone Cooperative, Inc.	$ 5.45-9.35	$ 9.95-16.40
Riviera Telephone Company, Inc.	$ 8.90	$17.40
Romain Telephone Company, Inc.	$ 8.15	$14.15
San Marcos Telephone Company	$ 5.95	$12.75
Santa Rosa Telephone Company, Inc.	$ 7.50	$11.50
South Plains Telephone Cooperative, Inc.	$ 7.90-10.65	$12.40-16.90
Southwest Arkansas Telephone Cooperative, Inc.	$10.75	$19.25
Southwest Texas Telephone Company	$ 8.00	$15.00
Southwestern Bell Telephone Company	$ 8.15-11.05	$19.15-28.25
Sugar Land Telephone Company	$16.15	$44.40
Sweeny-Old Ocean Telephone Company	$ 9.05	$19.45
Tatum Telephone Exchange	$ 6.00	$ 9.00
Taylor Telephone Cooperative, Inc.	$ 7.40-8.40	$ 8.40-12.90
Texas-Midland Telephone Company	$ 6.40-8.40	$11.15-16.65
Tri-County Telephone Company, Inc.	$ 6.25	$12.00
Trinity Valley Telephone Company	$ 6.65	$16.65
United Telephone Company of Texas, Inc.	$ 7.10-9.30	$15.90-20.65
Valley Telephone Cooperative, Inc.	$10.65-12.65	$14.15-16.15
Valley View Telephone Company	$ 8.00	$14.00
Waterwood Communications, Inc.	$ 9.30	$18.60
Wes-Tex Telephone Cooperative, Inc.	$ 5.90-10.65	$10.40-13.40
West Texas Rural Telephone Cooperative, Inc.	$12.50	$19.25
XIT Rural Telephone Cooperative, Inc.	$13.40	$19.40

* If more than one rate is applicable within a company's service area, a rate range is listed.

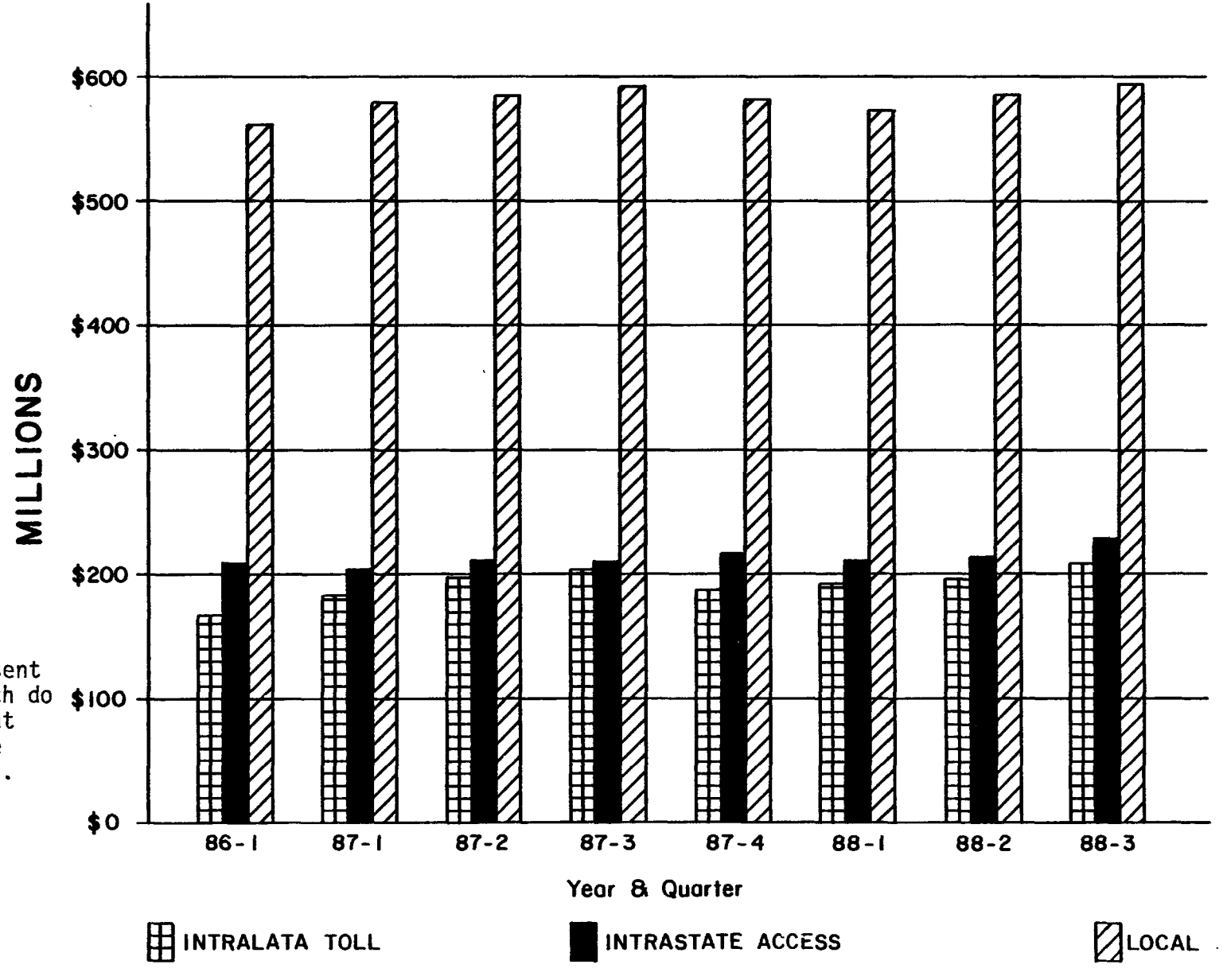
** In certain GTE exchanges, non-optional EAS additives range from $1.35 to $8.75 for residence and from $3.35 to $22.95 for business.

POPULATION DATA

Texas Local Exchange Carriers
(As of August 31, 1988)

Company Name	Average Population of Largest Cities in Serving Area
Southwestern Bell Telephone Company	921,040
General Telephone Company of the Southwest	125,570
San Marcos Telephone Company	34,650
Central Telephone Company of Texas	30,951
Lufkin-Conroe Telephone Exchange, Inc.	12,940
United Telephone Company of Texas, Inc.	10,484
Sugar Land Telephone Company	10,400
Continental Telephone Company of Texas	10,300
Kerrville Telephone Company, Inc.	8,400
West Texas Rural Telephone Cooperative, Inc.	5,901
Livingston Telephone Company	4,956
Electra Telephone Company	3,756
Fort Bend Telephone Company	3,053
Brazoria Telephone Company	3,025
Lake Dallas Telephone Company, Inc.	2,675
Guadalupe Valley Telephone Cooperative, Inc.	2,000
Mustang Telephone Company	2,000
Ganado Telephone Company, Inc.	1,800
Coleman County Telephone Cooperative, Inc.	1,535
Big Bend Telephone Company of Texas	1,520
Blossom Telephone Company	1,487
E.N.M.R. Telephone Cooperative, Inc.	1,435
Tatum Telephone Exchange	1,339
Comanche County Telephone Company, Inc.	1,267
Sweeny-Old Ocean Telephone Company	1,222
Tri-County Telephone Company, Inc.	1,200
Cap Rock Telephone Company, Inc.	1,150
Texas-Midland Telephone Company	1,080
Lake Livingston Telephone Company	1,000
Etex Telephone Cooperative, Inc.	953
Hill Country Telephone Cooperative, Inc.	887
ALLTEL Texas, Inc.	880
Trinity Valley Telephone Company	820
Romain Telephone Company, Inc.	800
Eastex Telephone Cooperative, Inc.	786
Wes-Tex Telephone Cooperative, Inc.	717
Byers-Petrolia Telephone Company, Inc.	700
Cumby Telephone Cooperative, Inc.	647
South Plains Telephone Cooperative, Inc.	591
Valley Telephone Cooperative, Inc.	589
Southwest Texas Telephone Company	560
Taylor Telephone Cooperative, Inc.	540
Dell Telephone Cooperative, Inc.	500
Valley View Telephone Company	500
Mid-Plains Rural Telephone Cooperative, Inc.	500
Lipan Telephone Company	500
XIT Rural Telephone Cooperative, Inc.	477
Muenster Telephone Corporation of Texas	470
Southwest Arkansas Telephone Cooperative, Inc.	419
Poka-Lambro Rural Telephone Cooperative, Inc.	413
Waterwood Communications, Inc.	400
Riviera Telephone Company, Inc.	368
Cameron Telephone Company	367
Peoples Telephone Cooperative, Inc.	350
Central Texas Telephone Cooperative, Inc.	258
Knippa Telephone Company	250
Industry Telephone Company	233
Community Telephone Company, Inc.	213
La Ward Telephone Exchange, Inc.	200
Peeples Telephone Company	189
Five Area Telephone Cooperative, Inc.	173
Santa Rosa Telephone Cooperative, Inc.	153
Colorado Valley Telephone Cooperative, Inc.	125
Brazos Telephone Cooperative, Inc.	120
Alenco Communications, Inc.	50
Panhandle Telephone Cooperative, Inc.	45

LOCAL EXCHANGE CARRIER REVENUES
Texas Operations

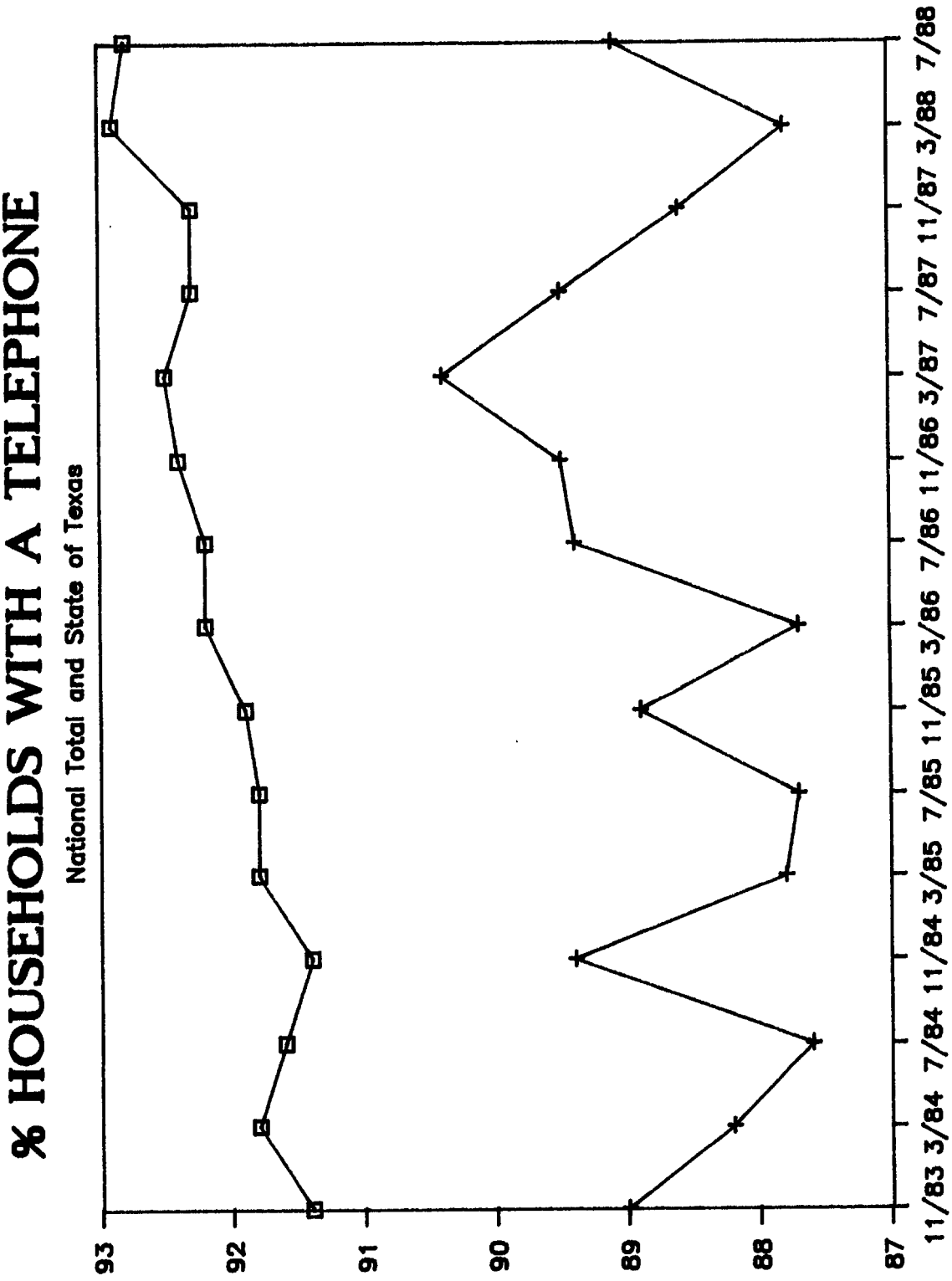


These figures represent billed revenues which do not take into account settlements from the intrastate toll pool.

PERCENTAGE OF U.S. HOUSEHOLDS WITH TELEPHONES BY STATE

Ranking	State	% of Households with Telephones
1	Connecticut	97.6
2	Delaware	97.4
3	Minnesota	97.3
4	Wisconsin	97.2
5	Massachusetts	97.1
6	Pennsylvania	96.8
7	Iowa	96.6
8	Maryland	96.0
9	North Dakota	95.8
10	Missouri	95.5
11	Vermont	95.4
12	Nebraska	95.3
13	Washington	95.2
14	Ohio	95.1
15	New Hampshire	94.8
16	New Jersey	94.8
17	Oregon	94.4
18	Rhode Island	94.4
19	Wyoming	94.3
20	Colorado	94.1
21	California	94.0
22	Illinois	94.0
23	Kansas	94.0
24	Michigan	93.6
25	Maine	93.5
26	South Dakota	92.9
27	Florida	92.8
28	Indiana	92.8
***	U.S. Average	92.8***
29	Nevada	92.6
30	Hawaii	92.2
31	Idaho	91.9
32	New York	91.6
33	Montana	91.5
34	Utah	91.4
35	Virginia	91.4
36	Arizona	91.2
37	North Carolina	91.2
38	Georgia	90.4
39	Tennessee	90.4
40	Texas	89.1
41	Alaska	88.2
42	Lousiana	87.8
43	Arkansas	87.5
44	Oklahoma	87.4
45	South Carolina	87.4
46	Kentucky	86.8
47	Alabama	86.5
48	West Virginia	85.8
49	New Mexico	85.5
50	Mississippi	83.7

SOURCE: U.S. Bureau of the Census, July, 1988.



Source: U. S. Bureau of the Census, Current Population Survey

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